OTAY RANCH

JOINT PLANNING PROJECT

COUNTY OF SAN DIEGO • CITY OF CHULA VISTA

OTAY RANCH SUBREGIONAL PLAN

"COUNTY BOARD OF SUPERVISORS FINAL PLAN"

FINAL CEQA FINDINGS OF FACT

AND

STATEMENT OF OVERRIDING CONSIDERATIONS*

*Revised to reflect final actions taken on October 28, 1993

315 Fourth Avenue, Suite A, Chula Vista, CA 91910 • (619) 422-7157 • FAX: (619) 422-7690

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Board of Supervisors
Document # 757842 A

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October 28, 1993
BEFORE THE COUNTY OF SAN DIEGO
BOARD OF SUPERVISORS

RE: Otay Ranch General Development Plan;
"Board of Supervisors Final Plan"
(Mitigated Phase II-Progress Plan)

FINDINGS OF FACT

I.
INTRODUCTION

The Final Program Environmental Impact Report (FPEIR)[1] prepared on this project addressed the potential environmental effects of developing over 23,000 acres of land with a new community. The New Town Plan submitted by Baldwin Vista Associates contained both a land use plan and policy language to guide the long-term development of the 23,068-acre property. The New Town Plan proposed a mix of residential neighborhoods, commercial centers, research-oriented industrial uses, natural open spaces, recreational parks, a civic center, art centers, resort facilities, a town center, and a university site. That plan, like the plan approved by the Board of Supervisors envisioned a series of villages or clusters of development within a cohesively planned community.

In addition to the New Town Plan, the FPEIR evaluated twelve onsite and offsite alternatives to the Project, including the Phase II-Progress Plan (with EastLake Land Swap parcels) which, as modified with additional mitigation, became the basis for the Board of Supervisors Final Plan. This recommendation came after numerous hearings and lengthy review. The modifications to the Phase II-Progress Plan, which result in the Board of Supervisors Final Plan or the Mitigated Phase II-Progress Plan (hereinafter, "Project"), include the following:

- Total land area is 23,068 acres (22,509 acres in County and 390 acres in City of San Diego); includes 169-acre East Lake parcels of Phase II-Progress Plan.

[1]The FPEIR includes the Technical Addendum, dated October 8, 1993.

- Total dwelling units is 24,224 (with university land use).[2]
- Proposed population 70,315 (see footnote 2).
- More open space, located along the western edge of Salt Creek northern slopes of Otay River Valley and Central Proctor Valley.
- Fewer acres of Commercial use.
- Scenic Corridor designation changed to General Plan Open Space near major roadways to preclude density transfers.
- Roadway alignment adjustment for Otay Valley Road to mitigate impacts to biological resources.
- Adjustment of development area to avoid wildlife corridors on parcel near Proctor Valley and Little Cedar Canyon.
- Golf course within Proctor Valley Village.
- Required funding for LRT prior to exceeding 15,000 dwelling units or 4,000,000 square feet of commercial.
- Designation of estate housing south of Lower Otay Lake.

After reviewing the FPEIR prepared for Otay Ranch, which included the analysis of the Phase II-Progress Plan, the San Diego County Board of Supervisors is of the opinion that the impacts identified for the Phase II-Progress Plan are substantially the same or greater than those for the Board of Supervisors Final Plan or the Mitigated Phase II-Progress Plan (hereinafter "Project"). Therefore, the Board determines that the FPEIR is adequate for considering the Project.

II.
PROJECT DESCRIPTION

The Project involves 22,899 acres and allows a maximum of 24,224 dwelling units (see footnote 2) to be constructed, resulting in a population of approximately 70,315. The buildout of the Project is projected to take 30-50 years.

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[2]If Villages 9 and 10 develop residentially, total dwelling units are increased by 2,835 units and approximate population is increased by 8,240 persons.

The plan is generally divided into 14 villages, 5 planning areas, plus the Eastern Urban Center (EUC). Most of the proposed homes are located in 14 villages: 11 on the Otay River parcel, 2 on the Proctor Valley parcel, and one on the San Ysidro parcel. Rural estate development is planned for the eastern parcels. An extensive open space system and circulation system, including greenbelt parkways and hiking trails, would connect the various development areas and parcels of Otay Ranch. A Resource Management Plan (RMP), including an approximate 11,400-acre management preserve, would be implemented. The management preserve will be conveyed in perpetuity to an entity other than the Applicant.

The Otay Valley parcel is dominated by the Eastern Urban Center (EUC). This mixed use area features a wide variety of office-professional, retail commercial, commercial, civic, cultural, park, and high density residential uses. Within the EUC, pedestrian traffic is encouraged by the close proximity and mixed nature of the uses. The potential future extension of the Light Rail Transit (LRT) line, which would run north to south through the EUC, ultimately would also encourage non-vehicular travel. As noted above, the Project limits development until funding and construction of LRT is assured. In general, villages around the EUC decrease in residential density with distance from the EUC. Each village is internally designed to encourage pedestrian traffic featuring mixed-use village centers near the core. All villages are connected by a system of paths and trails.

A major four-year university could locate with additional environmental review in the far eastern portion of the Otay Valley parcel west of Wueste Road. The GDP/SRP Land Use Map indicates the precise area where a university might locate. At any time, this area could be developed for an university campus and ancillary uses such as campus-related commercial, residential and research and development support services. However, the use of the area west of Wueste Road, east of Otay Valley Road, by a university is permitted provided that the use of Salt Creek Canyon (including defining slopes) is limited to trails, passive recreation, biological research and educational activities in keeping with the preservation of sensitive habitat and biological species located there. No buildings or structures shall be permitted within Salt Creek.

In addition to this primary land use designation, the Board of Supervisors has identified a secondary land use designation. Essentially, the secondary designation allows for villages to be developed in the areas of Villages 9 and 10 in accordance with the GDP/SRP Part II, Chapter 1, Sections F9 and F10. The area west of Wueste Road, east of Otay Valley Road, has a secondary designation of open space. This area may be developed for university purposes at any time. The secondary designations described above will only be allowed after the development of Western Phases I, II and III, as identified in the Otay Ranch Phasing Plan. Completion of development for purposes of this requirement shall be deemed to be the issuance of building permits for 75% of the residential units in Phases I through III. Should a university site be proposed on the site, appropriate environmental review would be required prior to project approval.

Land uses on the Proctor Valley parcel are generally confined to three geographically distinct areas arranged around the Jamul Mountains. These three areas include the Resort Center Village, Central Proctor Valley Village, and Jamul Rural Estate Area. The Resort Center Village (Village 13) consists of 783 acres and includes 2,438 dwelling units and a destination resort of 800 rooms. This village is located on the mesa northeast of Lower Otay Lake. The Resort will be developed with a village concept with residential neighborhoods arranged around the resort. The Central Proctor Valley Village (Village 14) is located in a gently rolling valley, bounded by San Miguel Mountain on the west and the Jamul Mountains to the east. Residential densities vary from low to low-medium to medium, with a village center. Approximately 1,723 homes are located in this 829-acre village. A golf course or equestrian complex is situated within this portion of the Project. The 1,137-acre North Proctor Valley (Planning Areas 16 and 19) area allows for 410 residences. Lots are a minimum of 1 acre in size, with most areas featuring lots of 3-acre average size. No villages would be located in this area.

Land uses, for the most part, on the San Ysidro Mountain parcel are clustered in two distinct areas. A small Estate Village (Village 15) is located on the western portion of the parcel, south of the lake, in a village consisting of approximately 516 dwelling units located on 800 acres. A mixed-use village center of approximately 27 acres is also situated near the residences. Circulation is provided by rural roads, which follow natural topographic contours. The eastern portion of this parcel (Planning Area 17) features very low density residential uses intermingled with "limited development" on steeper slopes. Residential densities vary based on terrain, slope, and proximity to developed areas; a lot minimum of 4 acres is required in the northern region near Otay Lakes Road, minimum lot sizes increasing east and southward to approximately 8 acres in the more remote locations of the parcel near Dulzura.

Commercial and institutional uses, schools, and parks proposed in the Project are distributed throughout the entire Otay Ranch. The majority of commercial uses are located in the EUC. In an effort to reduce vehicle miles travelled, each of the 14 village centers contains a small component of commercial, office, and quasi-public/public uses. Freeway commercial is situated on the Otay River parcel adjacent to proposed SR-125.

The Project will convey 13,692 acres of natural open space, encompassing portions of the Otay River Valley, Jamul Mountains, and San Ysidro Mountains. An 11,375-acre managed preserve operated in accordance with an approved Resource Management Plan (RMP) shall be established to preserve and manage the resources and ensure their viability. In addition, another 1,166 acres is proposed as natural open space outside of the preserve (Jamul and Dulzura Planning Areas). The project also proposes a system of paths and trails to connect the urban villages and their parks, forming a passive and active recreation network (of approximately 1,152 acres) throughout the Project. The total open space in the Project is therefore 13,692 acres (13,791 without the planned university).

The circulation system includes an integrated system of prime arterials, major roads, and collectors to maximize circulation efficiency. Three Otay River crossings will carry traffic to and from Otay Mesa: SR-125 (proposed), Heritage Road, and La Media with reservation to

provide a fourth crossing east of SR-125 (Alta Road), if necessary. The potential future extension of the Light Rail Transit (LRT) line which would run north to south through the EUC ultimately would also encourage non-vehicular travel. These pedestrian and public transit components provide the Project with means of transportation other than automobiles.

The Project objectives as set forth in the FPEIR are hereby incorporated by this reference. (FPEIR, p. 2-1) However, it should be noted that other Project objectives were formulated by the Interjurisdictional Task Force and were presented to the decisionmakers during the course of the decisionmaker's deliberation. In arriving at its final decision, the decisionmakers took into consideration objectives set forth in the FPEIR, objectives formulated by the Interjurisdictional Task Force and objectives consistent with the evidence before them at the numerous hearings held by the decisionmakers.

The discretionary actions taken by the decisionmakers in approving this Project are:

- Amendments to the County of San Diego General Plan on the 22,509 acres in the county jurisdiction as follows:

  - Regional land Use Map amendments consisting of the following:

    - Expansion of the Current Urban Development Area (CUDA);
    - Reduction of the Future Urban Development Area (FUDA);
    - Expansion of the Special Study Area (SSA);
    - Reduction of the Country Town (CT) of Jamul;
    - Reduction of Rural Development Area (RDA);
    - Reduction of the Estate Development Area (EDA); and
    - Expansion of the Environmentally Constrained Area (ECA).

  - Regional Land Use Element Text amendments consisting of the addition of a Special Study Area for the area of Otay Ranch Project that is outside of the County Water Authority boundary and other minor amendments.

  - Proposed changes to the boundary between the Otay Planning Area and the Jamul/Dulzura Planning Area.

  - Otay Subregional Plan Text and Map amendments consisting of the addition of the Otay Ranch General Development Plan as Volume 2, changes to Resource Conservation Areas, and amendments to certain land use designations.

  - Jamul/Dulzura Subregional Plan Text and Map amendments consisting of a reference to the Otay Ranch Project, revisions to certain policies to ensure consistency with the Otay Ranch Project, changes to Resource Conservation Areas and amendments to certain land use designations

- Sweetwater Plan Text amendment consisting of the extension of Reo Drive on the Circulation exhibit.

- Circulation Element Map amendments, Sheets 6 and 9, consisting of proposed changes to various road classifications and to the Bicycle Element.

- Conservation Element Text and Map amendments consisting of proposed revisions to existing Resource Conservation Areas (RCAs) and the addition of one RCA.

- Recreation Element Text amendment consisting of the addition of the Otay Valley Regional Park on the Regional Park Plan exhibit.

- Public Facility Element amendment consisting of changes exemption Otay Ranch from Policy 1.1.2 on page XII-4-18.

- Adoption of a Board of Supervisors Policy incorporating the following associated documents for the Otay Ranch Project:

  - Resource Management Plan;

  - Village Phasing Plan;

  - Service/Revenue Plan;

  - Facility Implementation Plans.

- Zone reclassifications consisting of proposals reclassifying the Otay Ranch property according to the proposed plan.

- An agreement between the County and Otay Vista Associates regarding the Mitigation Monitoring Program for the Otay Ranch Project.

III.
PROGRAM EIR

A program EIR is an EIR which may be prepared on a series of actions that can be characterized as "one large project" and are related either: (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. (CEQA Guidelines, 14 Cal. Code Reg. § 15168, subd. (a).)

Use of a program EIR can provide the following advantages. The program EIR can: (1) provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action; (2) ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis; (3) avoid duplicative reconsideration of basic policy considerations; and (4) allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems of cumulative impacts; and (5) allow reduction in paperwork. (CEQA Guidelines, 14 Cal. Code Reg. § 15168, subd. (b).)

"Use of the program EIR also enables the Lead Agency to characterize the overall program as the Project being approved at that time. Following this approach when individual activities within the program are proposed, the agency would be required to examine the individual activities to determine whether their effects were fully analyzed in the program EIR. If the activities would have no effects beyond those analyzed in the program EIR, the agency could assert that the activities are merely part of the program which had been approved earlier, and no further CEQA compliance would be required. This approach offers many possibilities for agencies to reduce their costs of CEQA compliance and still achieve high levels of environmental protection." (CEQA Guidelines, 14 Cal. Code Reg., discussion following § 15168).

The CEQA Guidelines provide that the "degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity." (Guidelines Section 15146) Because the approval before the decisionmakers does not involve specific plans or tentative maps, the FPEIR does not, and could not, analyze impacts or proposed mitigation measures associated with those more precise project-specific plans. Further environmental review will be required for that more specific level of analysis, after receipt of more specific development plans.

IV.
RECORD OF PROCEEDINGS

For purposes of CEQA and the findings set forth below, the administrative record of the Board of Supervisors decision on the environmental analysis of this Project shall consist of the following:

- The Draft and Final Program EIR for the Project, including appendices and technical reports;

- All reports, applications, memoranda, maps, letters and other planning documents prepared by the planning consultant, the project Applicant, the environmental consultant, the Otay Ranch Project staff, the City of Chula Vista, and the County of San Diego that are before the decisionmakers as determined by the County Clerk;

- All documents submitted by members of the public and public agencies in connection with the EIR on the Project;

- Minutes and verbatim transcripts of all workshops, public meetings and public hearings held by the City of Chula Vista and County of San Diego, or video tapes where transcripts are not available or adequate;

- Any documentary or other evidence submitted at workshops, public meetings and public hearings; and

- Matters of common knowledge to the Board of Supervisors which they consider, including but not limited to, the following:

  - Chula Vista General Plan (update) - 2010

  - County of San Diego General Plan

  - County of San Diego Resource Protection Ordinance

  - Relevant portions of the Zoning Codes of the City of Chula Vista and County of San Diego

V.
TERMINOLOGY/THE PURPOSE OF FINDINGS UNDER CEQA

Section 15091 of the CEQA Guidelines requires that, for each significant environmental effect identified in an EIR for a Project, the approving agency must issue a written finding reaching one or more of the three allowable conclusions. The first is that "[c]hanges or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effect as identified in the final EIR." (emphasis added.) The second potential finding is that "[s]uch changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency." The third permissible conclusion is that "[s]pecific economic, social or other considerations make infeasible the mitigation measures or Project alternatives identified in the final EIR."

Regarding the first of three potential findings, the CEQA Guidelines do not define the difference between "avoiding" a significant environmental effect and merely "substantially lessening" such an effect. The meaning of these terms, therefore, must be gleaned from other contexts in which they are used. Public Resources Code section 21081, on which CEQA Guidelines section 15091 is based, uses the term "mitigate" rather than "substantially lessen." The CEQA Guidelines, therefore, equate "mitigating" with "substantially lessening." Such an understanding of the statutory term is consistent with Public Resources Code section 21001, which declares the Legislature's policy disfavoring the approval of projects with significant environmental effects

where there are feasible mitigation measures or alternatives that could "avoid or substantially lessen" such significant effects.

For purposes of these findings, the term "avoid" shall refer to the ability of one or more mitigation measures to reduce an otherwise significant effect to a less-than-significant level. In contrast, the term "substantially lessen" shall refer to the ability of such measures to substantially reduce the severity of a significant effect, but not to reduce the effect to a level of insignificance. Although CEQA Guidelines section 15091 requires only that approving agencies specify that a particular significant effect is "avoid[ed] or substantially lessen[ed]," these findings, for purposes of clarity, will specify whether the effect in question has been fully avoided (and thus reduced to a level of insignificance) or has been substantially lessened (and thus remains significant).

The purpose of these findings is to systematically restate the significant effects of the Project on the environment identified in the Final Program EIR, and determine the feasibility of mitigation measures and Project alternatives identified in the Final Program EIR which would avoid or substantially lessen those significant effects. Once the County has adopted sufficient measures to avoid a significant impact, the County does not need to adopt every mitigation measure brought to its attention or identified in the Final Program EIR. The County shall not reduce housing units as a mitigation measure to a Project, if the County determines another specific mitigation measure will provide a comparable level of mitigation.

It is the policy of the State of California and the County of San Diego to not approve a Project if there are available feasible mitigation measures or project alternatives which would substantially lessen that Project's significant environmental effects. Only when such mitigation measures or Project alternatives are found to be infeasible because of specific economic, social or other conditions set forth in these findings may the County approve a Project in spite of its significant effects.

Another purpose of these findings is to bring focus to Project alternatives in the ultimate decisionmakers' decision whether to approve or disapprove the Project. If, after application of all feasible mitigation measures to the Project, significant impacts remain, Project alternatives identified in the FPEIR must be reviewed and determined to be feasible or infeasible. The findings set forth the reasons, based on substantial evidence in the record, that the decisionmakers conclude any such Project alternatives are infeasible (see further discussion in Feasibility of Alternatives Section).

VI.
LEGAL EFFECT OF FINDINGS

To the extent that these findings conclude that proposed mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, the County of San Diego ("County" or "decisionmakers") hereby binds itself and any other responsible parties, including the Applicant and its successors in interest (hereinafter referred to as "Applicant") , to implement those measures. These findings, in other words, are not merely informational or

hortatory, but constitute a binding set of obligations that will come into effect when the County adopts the resolution(s) approving the Project.

The adopted mitigation measures are express conditions of approval. Other requirements are referenced in the mitigation monitoring program adopted concurrently with these findings, and will be effectuated through the process of implementing the Project.

VII.
MITIGATION MONITORING PROGRAM

As required by Public Resources Code section 21081.6, the County of San Diego in adopting these findings, also adopts a mitigation monitoring and reporting program as prepared by the environmental consultant under the direction of the County. The program is designed to ensure, that during Project implementation, the Applicant and any other responsible parties comply with the feasible mitigation measures identified below. The program is described in the document entitled "Otay Ranch General Development Plan Mitigation Monitoring Program."

VIII.
DIRECT SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The Final Program EIR identified a number of direct significant environmental effects (or "impacts") that the Project will cause; some can be fully avoided through the adoption of feasible mitigation measures, while others can not be avoided.

The Project will result in the following significant irreversible environmental changes: Land Use, Landform/Visual Quality, Biology, Archaeology/Paleontology, Geology/Soils, Hydrology, Water Quality, Transportation/Access, Air Quality, Noise, and Public Services and Utilities. These significant environmental changes or impacts are discussed in both the Draft EIR 90-01, at pages 3-1 through 3.16-8, and the Final Program EIR, at pages 3.1-1 through 3.16-6.

Land Use, Planning, and Zoning

Potential incompatibility with existing adjacent land uses, including Otay Landfill, EastLake, San Diego Air Sports Center, and two quarries. [FPEIR, Volume 2, p. 4.9.2-1]

Potential incompatibility with internal Project land uses including residential, commercial, and industrial uses. [FPEIR, Volume 2, p. 4.9.2-1]

Inconsistency with policies of Jamul-Dulzura Subregional Plan by extending Current Urban Development Area (CUDA) adjacent to Jamul and City of Chula Vista policies and goals for the Eastern Territories. [FPEIR, Volume 2, p. 4.9.2-1]

Conversion of the site's overall character from undeveloped open space to developed land. [FPEIR, Volume 2, p. 4.9.2-1]

Landform Alteration/Aesthetics [FPEIR, Volume 2, p. 4.9.3-1]

Alteration of significant or sensitive landforms. [FPEIR, Volume 2, p. 4.9.3-1]

Change in overall visual character of the Project area. [FPEIR, Volume 2, p. 4.9.3-1]

Development in highly visible areas. [FPEIR, Volume 2, p. 4.9.3-1]

Biological Resources

Sensitive uplands, including coastal sage scrub, wetlands, and vernal pool habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-1 through 4.9.4-3]

State-listed endangered plant species would be impacted. [FPEIR, Volume 2, p. 4.9.4-4]

Second, third, and fourth priority sensitive plant species would be impacted. [FPEIR, Volume 2, p. 4.9.4-4 through 4.9.4-5]

Least Bell's vireo, cactus wren, tricolored blackbird, and California gnatcatcher points of occurrence would be impacted and the habitat for southwestern willow flycatcher would be impacted. [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-6 and p. 4.9.4-18 through 4.9.4-21]

Riverside fairy shrimp and San Diego vernal pool fairy shrimp habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-18 through 4.9.4-21]

Harbison's dun skipper, Hermes copper, Thorne's hairstreak, and Quino checkerspot habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-18 through 4.9.4-21]

California red-legged frog and southwestern pond turtle habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-6 and p. 4.9.4-18 through 4.9.4-21]

Fifty (50) other sensitive species may be impacted. [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-7]

Regional raptor-foraging areas would be impacted. [FPEIR, Volume 2, p. 3.3-48 through 3.3-51]

Regional wildlife corridors would be impacted. [FPEIR, Volume 2, p. 4.9.4-8 through 4.9.4-9]

Cultural Resources

Disturbance of significant prehistoric and historic resources. [FPEIR, Volume 2, p. 4.9.5-8 through 4.9.5-9]

Geology and Soils

Geology impacts include: slope instability, development proposed on metavolcanic bedrock, and seismic hazards. Soils impacts include expansive soils, erosion, and liquefaction. [FPEIR, Volume 2, p. 4.9.6-1]

Paleontology

Disturbance of significant paleontological resources. [FPEIR, Volume 2, p. 4.9.7-1]

Agricultural Resources

Conversion of prime farmlands and elimination of existing crop production. [FPEIR, Volume 2, p. 4.9.8-1 through p. 4.9.8-2]

Inconsistency with existing County of San Diego and City of Chula Vista plans and policies. [FPEIR, Volume 2, p. 4.9.8-3]

Land use interface impacts associated with agricultural activities and urban uses. [FPEIR, Volume 2, p. 4.9.8-2]

Mineral Resources

Potential loss of mineral resources of economic value due to development or land use conflict. [FPEIR, Volume 2, p. 4.9.9-1]

Water Resources and Water Quality

Increases in surface water runoff due to increase in impervious surfaces could increase potential for downstream flooding, cause potential safety impacts, and increase erosion and siltation. [FPEIR, Volume 2, p. 4.9.10-1]

Development may encroach into the 100-year floodplain. [FPEIR, Volume 2, p. 4.9.10-1]

Potential increase in contaminant concentrations in Lower Otay Lake due to conversion of undeveloped land to urban uses. [FPEIR, Volume 2, p. 4.9.10-1]

Transportation, Circulation, and Access

Impacts to the road network in the South Bay area will occur if SR-125 is not constructed. [FPEIR, Volume 2, p. 4.9.11-1 and p. 4.9.11-4]

Impacts to road segments and intersections due to increase in traffic associated with Otay Ranch. [FPEIR, Volume 2, p. 4.11-1 through p. 4.9.11-13]

Air Quality

Air quality impacts would exceed the current State Implementation Plan (SIP) air quality attainment regulations which were based on SANDAG Series 7 growth projections. [FPEIR, Volume 2, p. 4.9.12-1]

Project emissions of NOx, reactive organic gases (ROG), CO and PM-10 from vehicular and stationary sources would add to existing violations of federal and state ozone standards. [FPEIR, Volume 2, p. 4.9.12-1]

Short-term emissions would occur during Project construction. [FPEIR, Volume 2, p. 4.9.12-1]

Noise

Noise levels in many areas of the Project would exceed the 60 dBA CNEL standard. [FPEIR, Volume 2, p. 4.9.13-1 through 4.9.3-3]

Indirect roadway and construction impacts on Least Bell's Vireo and California Gnatcatcher habitat. [FPEIR, Volume 2, p. 4.9.13-1]

Public Services and Utilities

Water Availability and Supply: Project-generated water requirements would impact the capability of local jurisdictions to provide water. [FPEIR, Volume 2, p. 4.9.14-1]

Wastewater and Sewer Service: Facilities to accommodate additional sewage flow and wastewater treatment would be required. [FPEIR, Volume 2, p. 4.9.14-2]

Integrated Waste Management: Project-generated solid waste would impact the landfill capacity in the region. [FPEIR, Volume 2, p. 4.9.14-3]

Police and Fire Protection, Emergency Medical Services: The Otay Ranch population would result in the need for additional staff and facilities to provide these services. [FPEIR, Volume 2, p. 4.9.14-3 through p. 4.9.14-4]

Schools: The Otay Ranch student population would generate the need for additional schools. [FPEIR, Volume 2, p. 4.9.14-4 to 4.9.14-5]

Library Service: Additional library facilities would be required to serve the Otay Ranch population. [FPEIR, Volume 2, p. 4.9.14-5]

Parks, Recreation, and Open Space: Otay Ranch would generate additional demand for regional and local parkland, open space, and recreational facilities. [FPEIR, Volume 2, p. 4.9.14-5 through p. 4.9.14-6]

Electricity and Gas: Additional substations and associated distribution lines would be required to service the Project. [FPEIR, Volume 2, p. 4.9.14-6]

Health and Medical Services Facilities: Otay Ranch would generate the need for additional health and medical, and senior and social service facilities. [FPEIR, Volume 2, p. 4.9.14-7 through p. 4.9.14-8]

Other Public Services: Otay Ranch would generate the need for additional child care and animal control facility space. [FPEIR, Volume 2, p. 4.9.14-8 through p. 4.9.14-9]

Risk of Upset

Increase in urbanization would result in an increase in the use, transport, storage, and disposal of hazardous materials and an associated increase in the risk of an upset condition in the area. [FPEIR, Volume 2, p. 4.9.15-1]

Growth Inducement

Potential direct and indirect growth inducement, particularly related to the provision of sewers. [FPEIR, Volume 2, p. 7-1 through 7-8].

Certain of the above impacts cannot be substantially lessened or avoided at the Subregional Plan level; but, as described in the Statement of Overriding Considerations, the Board of Supervisors has determined that the impacts are acceptable because of specific overriding considerations. The following sub-sections describe specific impacts, setting forth either the reasons why they are significant and unavoidable, the mitigation measures adopted to substantially lessen or avoid them, or the reasons why proposed mitigation measures proved to be infeasible due to specific economic, social or other considerations.

A. LAND USE, PLANNING, AND ZONING

Significant Effect: Potential incompatibility with existing adjacent land uses, including Otay Landfill, EastLake, San Diego Air Sports Center, and three quarries. [FPEIR, Volume 2, p. 4.9.2-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effects as identified in the Final Program EIR, however, not to a level below significance. As described in the statement of overriding considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. These measures are required at the GDP/Subregional Plan level and will be implemented at the SPA plan level. [FPEIR, Volume 2, p. 4.9.2-1 through 4.9.2-2]

- The SPA plans developed for the areas of the Otay River parcel adjacent to East Lake, industrially designated lands in the City of Chula Vista, the Otay Landfill, the Nelson and Sloan quarry site, the Rock Mountain quarry and the Daley quarry shall contain landscaping, grading, and buffering standards (including any standards contained in Sections 3.13, 3.14, and 3.16 of the Final Program EIR) designed to prevent land use interface impacts such as health hazards, noise, lighting, and loss of privacy between Otay Ranch and these adjacent land uses. The SPA plan shall be reviewed by the city or county planning department that has jurisdiction over these areas to ensure that standards avoid significant interface impacts from occurring. In the event that these standards are not ensured, then, in the case of the Otay Landfill, which is scheduled to close in 1999, mitigation would require phasing the development of adjacent residences so that this part of the parcel is not developed until after the landfill has been closed.

- The Project plans shall be submitted to the Federal Aviation Administration (FAA) for review as soon as possible to determine whether or not land use incompatibilities exist between the Project and the existing San Diego Air Sports Center. If it is determined by the FAA that such incompatibilities exist, then the the SPA plan shall be designed to avoid such interface impacts. The Project Applicant shall then revise the Project's phasing plan to allow for use of the sports center until its option expires.

- Development proposed adjacent to the Daley quarry, the Nelson and Sloan quarry and the Rock Mountain quarry in the San Ysidro parcel shall occur in accordance with the following mitigation measures:

    - Residential development within 9300 feet of the quarries shall be staged such that construction shall not take place unless the quarries have been

mined-out and mining operations have ceased or noise impacts can be mitigated as demonstrated in the site-specific noise study to an exterior noise level of 60 CNEL or below and an interior noise level of 45 CNEL or below for residences.

- A site-specific noise study shall be required to determine the specific noise impacts and measures necessary to achieve an exterior noise level of 60 CNEL or below and an interior noise level of 45 CNEL or below. The study shall be prepared by a qualified acoustician in accordance with local noise standards.

- The mitigation measures outlined above shall be included in the applicable SPA plan for this area of the Project.

* * *

Significant Effect: Potential incompatibility with internal Project land uses including residential, commercial, and industrial uses. [FPEIR, Volume 2, p. 4.9.2-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid or substantially lessen the significant environmental effect as identified in the Final Program EIR as related to the incompatibilities of internal land uses and the majority of immediately adjacent external land uses. Land use interface impacts on the Jamul Country Town, Proctor Valley development, and along the northern and southern shores of Lower Otay Lake are unavoidable and remain significant after implementation of the following mitigation measures. [FPEIR, Volume 2, p. 4.9.2-2] Pursuant to 15091 (a)(3) as described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that these impacts are acceptable because of specific overriding considerations. All other impacts related to potential incompatibility with internal project land uses are, with the implementation of the following mitigation measures, avoided or reduced to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these findings. These mitigation measures are required at the GDP/Subregional Plan level and will be implemented at the SPA plan level. [FPEIR, Volume 2, p. 4.9.2-1 through 4.9.2-2]

- The SPA plans developed for the above mentioned areas of the Project site shall contain policy language that explicitly sets forth standards for landscaping, grading, and buffering to prevent land use interface impacts such as noise, lighting, and loss of privacy from occurring between adjacent internal land uses, especially between single-family and multi-family residential land uses and between residential and non-residential land uses (including the standards

contained in 3.13, 3.14 and 3.16 of the Final Program EIR). Lots contiguous to Jamul in the Proctor Valley parcel may not be smaller than one acre in size. All SPA plans shall be reviewed by the city or county planning department that has jurisdiction over the area in which the proposed SPA plan is located to ensure that proposed standards are adequate to prevent significant interface impacts from occurring.

- Buffer and/or transition techniques which deal with the transition between different "villages" within and outside of the Project are included in the land use policies of the Project's GDP.

- If the existing FAA VORTAC facility is not relocated, the Subregional Plan map shall be revised to indicate this existing land use. In addition, the SPA plan developed for this area shall set forth standards for landscaping, grading, and buffering guidelines to prevent land use interface impacts. The SPA plan shall be reviewed by the city or county planning department that has jurisdiction over this area to ensure that proposed guidelines are adequate to prevent significant interface impacts from occurring.

- The Applicant shall implement the development criteria in the RMP to protect resources located outside the management preserve.

* * *

Significant Effect: Inconsistency with policies of Jamul-Dulzura Subregional Plan (by extending Current Urban Development Area (CUDA) into Proctor Valley), City of Chula Vista policies and goals for the Eastern Territories. [FPEIR, Volume 2, p. 4.9.2-1]

Finding: Implementation of the Project would result in significant land use impacts due to inconsistencies with County of San Diego policies and goals to retain the rural atmosphere of existing rural lands, with Jamul's Country Town land use designation, and with City of Chula Vista policies and goals to develop the Eastern Territories primarily with low-medium densities of residential development. No mitigation other than to decrease the density of the Project in the Jamul area of the county, leave the Regional Land Use designations as they are now, and to decrease density of the Project in the Eastern Territories of the City of Chula Vista is available to mitigate these Project inconsistencies (i.e., the "No Project Alternative"). Therefore, this impact remains significant. [FPEIR, Volume 2, p. 4.9.2-2] Pursuant to section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible mitigation measures which would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

* * *

Significant Effect: Conversion of the site's character from undeveloped open space to developed land. [FPEIR, Volume 2, p. 4.9.2-1]

Finding: The Project would change the existing character of the site from undeveloped or underdeveloped open space to developed land. This change is significantly adverse for the areas in or adjacent to Jamul, Proctor Valley, Lower Otay Lake, and the San Ysidro Mountains and is unmitigable. Therefore, this impact remains significant. [FPEIR, Volume 2, p. 4.9.2-2] Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible mitigation measures which would mitigate the impact. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

The following mitigation measure is found to be infeasible:

- Amendments to the Conservation Element shall indicate the presence of County of San Diego Resource Conservation Areas (RCAs) #122-San Miguel Mountain-Jamul Mountains, #123-Otay River, #124-Brown Field Area, #125-Brown Field Old Bombing Range, #160-Poggi Canyon, and #127-Otay Mountain-Lower Otay Lake.

Rationale: The entire property site is clearly defined as a sensitive resource area. Over 11,000 acres have been set aside in a Preserve. Additionally, numerous project-wide surveys and studies are required by these findings and conditions of approval. Thus, the decisionmakers believe that designating the property as RCA (an informational overlay signaling the sensitivity of the site) is redundant.

During the course of the hearings it was argued that the proposed Project was inconsistent with a number of County General Plan goals and Jamul/Dulzura Subregional Plan goals. The referenced goals primarily related to community character and the extension of urban development into rural areas. In making its decision, the decisionmakers allowed urban development in the Central Proctor Valley because of the topographical separation between Central Proctor Valley and the Jamul Dulzura community. Additionally, the decisionmakers created an open space buffer, consistent with the existing wildlife corridor, of approximately 1,500 feet between the two uses. Finally, in determining to allow urban development in Central Proctor Valley the decisionmakers took into account the proximity of the proposed development (Central Proctor Valley) to existing development (i.e., EastLake and Salt Creek Ranch) in the City of Chula Vista. Furthermore, the decisionmakers implemented Goal 3 of the Jamul/Dulzura Subregional Plan which states that the decisionmakers should "direct urban density, residential and commercial land uses to the region's more level land in the impacted water service area."

* * *

B. LANDFORM ALTERATION/AESTHETICS

Significant Effect: Change in overall visual character of the Project area. [FPEIR, Volume 2, p. 4.9.3-1]

Finding: No measures are available to mitigate the loss of open space and unavoidable alteration in visual character of the site. The proposed GDP/Subregional Plan provides for a large amount of open space; however, the overall character of the site would become one of developed land. Measures intended to reduce the specific potential visual impacts of the development are contained in the following sections. However, their implementation would not reduce this unmitigable effect of the GDP/Subregional Plan implementation to below a level of significance. [FPEIR, Volume 2, p. 4.9.3-1 through 4.9.3-2] Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures which would avoid the impact. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

* * *

Significant Effect: Alteration of significant or sensitive landforms. [FPEIR, Volume 2, p. 4.9.3-1]

Findings: Pursuant to 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. After the implementation of the mitigation measures, the alteration of significant or sensitive landforms (i.e., steep slopes, Lower Otay Lake area and Otay River Valley) would remain a significant impact of the Project. [FPEIR, Volume 2, p. 4.9.3-1 through 4.9.3-2] Pursuant to Section 15091 (a) (3) there are no other feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that the significant impacts are acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.3-1]

- The GDP/Subregional Plan developed for the Otay Ranch Project contains specific landform alteration standards that provide stringent protection of sensitive landforms. The Applicant shall implement, at a minimum, the following mitigation measures in addition to those described in the GDP/SRP:

- Roadways shall be designed to follow the natural contours of hillsides and minimize visibility of road cuts and manufactured slopes.

- Excessive use of manufactured slopes in the Otay River Valley, Jamul and San Ysidro Mountains, and the area around Otay Lakes shall not be permitted.

- Natural buffering (e.g., undeveloped open space) shall be provided between development and significant landforms, including the Jamul and San Ysidro Mountains.

- Variable slope ratios not exceeding 2:1 shall be utilized when developing grading plans.

- Eighty-three percent of the steep slopes (steeper than 25%) shall be preserved.

- Grading to correct mining disturbance shall be limited to:

  - Clearing previously disturbed areas and minor areas incidental to the previously disturbed areas.

  - Capping of areas to provide ground for establishing new plant material or construction of approved uses, (i.e., staging areas, recreation centers, interpretive centers, etc.).

  - Overexcavation of areas for recompaction, creation of habitat and creation of wetland areas.

  - Grading to create flood control devices including overexcavation and creation of berms to contain floods.

  All grading shall result in new landforms which emulate existing landforms found within the river valley as of Project approval. These new features shall include irregular slopes of variable pitch.

- All grading plans submitted for the Otay Ranch property shall be prepared by a certified engineer and evaluated by the planning and engineering departments of the appropriate jurisdiction. Development shall be constructed in accordance with those plans as well as the grading policies of the GDP/Subregional Plan.

The following mitigation measures are rejected as infeasible:

- No disturbance of steep slopes (over 25 percent) shall be allowed; the disruption of rock outcrops (particularly on the San Ysidro parcel) and the filling of canyons shall be avoided.

- The GDP/Subregional Plan shall contain language that provides adequate protection to meet the goals of the County Resource Protection Ordinance No. 7631, and the existing City of Chula Vista and City of San Diego Grading Ordinances, all of which regulate or restrict the grading that can occur on slopes with gradients steeper than 25 percent and a minimum rise of 50 feet.

- Encroachment into natural slopes shall not be permitted.

- Limit grading and development to below the top of major ridgelines to maintain natural terrain lines.

Rationale: Avoidance of development of all steep slopes and ridgelines is infeasible. It would result in circuitous, elongated roads and utility systems serving isolated and fragmented pockets of development. This approach is inconsistent with project goals of creating pedestrian-friendly communities where homes are clustered near village cores and people are encouraged to walk. This fragmented development would not permit concentrated development that supports transit ridership. Further, this approach -- by fragmenting development, would increase the amount of "edge effect" between natural habitat and areas of homes. While the Otay Ranch development is sited in areas containing some sensitive environmental habitat and slope constraints, it generally avoids large areas of steep slopes, ridgelines and significant environmental constraints. The current plan only impacts 17 percent of slopes over 25 percent, a number within the range of the County of San Diego's Resource Protection Ordinance. (See maps prepared by Ogden Environmental indicating the ridgelines and areas of steep slopes.)

* * *

Significant Effect: Development in highly visible areas. [FPEIR, Volume 2, p. 4.9.3-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effects as identified in the Final Program EIR. After the implementation of the mitigation measures, however, the following impacts would remain significant impacts of the Project:

- An unavoidable adverse change in the existing visual character of the Project site.

- Alteration in areas of sensitive landforms (i.e., steep slopes, Lower Otay Lakes area and Otay River Valley).

- Grading of steep slopes that may be visible from future development and roadways.

- Realignment of the scenic roadway of Otay Lakes Road.

- Development of the resort on the Proctor Valley parcel.

Pursuant to Section 15091 (a) (3) of the State Guidelines, there are no other measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supevisors has determined that this significant effect is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as a condition of approval and are made binding on the Applicant through these Findings.

- The GDP/SRP contains a requirement that at the SPA level, after the receipt of more specific development plans, specific mitigation measures to reduce grading and visual resource impacts of the resort, residential, commercial, industrial, and public/civic land uses and the associated roadways must be developed. Future analysis shall include either engineering cross-sections depicting existing and proposed topography or photo documentation illustrating proposed topographic and design features. Any cut and fill slopes in excess of 15 feet in height shall be identified. Special attention shall be placed on grading and design of the following, highly visible, features of the Project:

  - Size, location, and setbacks of the resort building above Lower Otay Lake.

  - Grading and development of residential areas within the San Ysidro parcel in the higher elevations in the vicinity of Lower Otay Lake.

  - Height and length of manufactured slopes along Telegraph Canyon Road, Otay Lakes Road, Proctor Valley Road, and Otay Valley Road.

  - Development and grading along major ridgelines, such as within the San Ysidro and Jamul mountain areas, and adjacent to all natural open space areas.

  - Location and visibility of new public trails through open space in proximity to existing and future development.

- Placement of clustered development or stepped (split-level) building pads in hillside regions, if possible, to minimize landscape disturbance and retain ridgelines.

- The GDP/SRP contains binding design guidelines that will pertain to future streetscapes, buildings, and villages to enhance the visual appeal of development and prevent contrasts in site character. The design guidelines, which are binding on the applicant, include the following:

  - View corridors shall be integrated at the terminus or periodically along the length of streets paralleling or intersecting undeveloped open space.

  - Walls, including acoustical barriers, shall be integrated into the architectural theme and scale of the villages.

  - Landscape themes shall be used to define village character and blend with adjacent existing development.

  - Natural and native plantings shall be integrated into revegetation plans for manufactured slopes adjacent to open space areas.

  - Scale and architectural treatments (i.e., rooflines, building materials) of all residential and non-residential village buildings shall be diverse and yet compatible.

  - Signage shall be controlled and designed to fit in the pedestrian environment.

  - Buffer techniques shall be developed to address transitions between villages and incompatible land uses to minimize visual impacts.

  - Architectural colors for development adjacent to open space areas shall incorporate natural tones and shades.

  - Overhead and night lighting shall be developed in accordance with the County's Dark Sky ordinance in the Proctor Valley and San Ysidro parcels. Street fixtures shall utilize low glare bulbs (i.e., amber light) and be placed, only as necessary, near key intersections for security purposes in accordance with the county policy.

- SPA plans and all implementing documents shall require design review for all building and site plans to ensure compatible architectural styles, building materials, building proportions, landscaping, streetscape, and signage throughout each village.

- To mitigate impacts on visual resources associated with the resort, to be located on the mesa north of Lower Otay Lake, and all other development surrounding the eastern and southern sides of the lake, site plan and building schematics shall be reviewed by the appropriate jurisdiction to ensure the following measures are incorporated into the design:

  - Buildings shall be visually compatible in terms of height, scale, and bulk and shall be set back from the edge of the mesa and composed of low-rise structures, no more than three stories in height with an occasional four story building.

  - Contour grading shall be used to transition graded slopes into the natural topography of surrounding hillsides.

  - Manufactured slopes shall be revegetated upon completion of grading activities.

  - Color schemes shall be limited to natural colors that blend with the existing environment and surrounding hillsides.

  - Buildings shall maximize the use of non-reflective/non-glare surfaces.

- To mitigate potential visual impacts as a result of the university site, the following design guidelines shall be required of a private university and strongly encouraged to be followed by a public university. (Because development of a public university is within the jurisdiction of another agency, these guidelines cannot be mandated.):

  - Building heights must be gradually reduced toward the Lower Otay Lake shoreline.

  - Setbacks must be incorporated into the site plans to prevent the university from dominating the views to the lake.

  - Non reflective/non-glare building material must be integrated into the building whenever possible.

  - Design must be compatible with the architectural, landscape and building treatments of the Olympic Training Center and other adjacent developments.

  - Clustering of buildings is required.

- To mitigate visual and policy impacts from the realignment of Otay Lakes Road, a scenic roadway, a visual resources evaluation shall be conducted by the Applicant once the actual roadway alignment and surrounding development have been determined to identify key view corridors that would be available to travelers. Significant views of Lower Otay Lake and the San Ysidro foothills and mountains shall be preserved by a combination of the following measures:

  - Heights of buildings adjacent to the southern edge of the roadway shall be limited to heights which enable views of the lake and surrounding hillsides, or site planning adjacent to the southern edge of the roadway shall enable view corridors of the lake and surrounding hillsides.

  - Viewing areas shall be established along the roadway corridor to allow travelers to stop and enjoy the view above the lake.

  - The abandoned alignment shall be rehabilitated and open for pedestrian and bicycle viewing access. Rest areas and vistas shall be incorporated into the rehabilitated walkway or promenade.

C. BIOLOGICAL RESOURCES

As part of the Project the County is adopting a Resource Management Plan (RMP) that defines minimum standards of biological preservation for project development. These standards are also reflected in the findings as the minimum standards that the Project must achieve. However, during the environmental review process required at the SPA level, "effects upon the environment which are peculiar to the parcel or to the project and which were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report" shall be examined. (Pub. Resources Code § 21083.3.) Feasible mitigation measures for effects that are "peculiar to the site" or for any other reason defined by the statute shall be required pursuant to CEQA.

Therefore, it should be recognized that the standards set forth herein are minimum standards subject to increase after completion of more precise surveys, identification of substantial new information, and/or other factors.

Significant Effect: Sensitive uplands (including coastal sage scrub), wetlands, and vernal pool habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-1 through 4.9.4-4]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will substantially lessen the significant environmental effects as identified in the Final Program EIR. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures at this level of planning to mitigate impacts below a level of

significance for impacts to Diegan Coastal Sage Scrub, Maritime Succulent Scrub, Non-native Grasslands, Valley Needlegrass Grassland, Alkali Meadow and Vernal Pools. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations. Impacts to Woodlands, Floodplains Scrub, Southern Willow Scrub and Aquatic Freshwater Marsh, are mitigated to a level below significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-8 through 4.9.4-14 and Table 4.2.4-8]

Diegan Coastal Sage Scrub (CSS)

- The project is designed to preserve 70 percent of the coastal sage scrub onsite including significant portions of CSS in the key areas identified below:

  - Salt Creek

  - Poggi and Wolf canyons

  - Rock Mountain and existing CSS on north side of Otay River Valley

  - Patches of CSS south of Lower Otay Lake and the San Diego Air Sports Center

- 1,300 acres of identified high priority CSS areas on the Project site shall be restored (see Figure 3.3-8 in the FPEIR). This restoration shall include a minimum of 56 acres of maritime succulent scrub. Restoration shall follow the conceptual sage scrub revegetation plan outlined in the RMP. (Section 4.3.1)

- Coastal sage scrub restoration activities shall commence prior to or concurrent with approval of the first SPA/Specific Plan within Otay Ranch and shall have achieved success, based on performance standards described below and in future detailed restoration plans, prior to or concurrent with any Project approval for development resulting in significant impacts to coastal sage scrub habitat occupied by California gnatcatchers.

  The success of a specific coastal sage scrub restoration effort will be measured by its ability to replace the habitat values lost, and by its ability to support native plant and wildlife species typical of coastal sage scrub. The following are success criteria that shall be achieved:

  - The shrub layer within each revegetated patch will consist of at least four site-typical native shrub species found on Table 3 (p. 142 of the RMP),

or 60 percent of the species determined to occur in the target patch of the preferred habitat type, whichever is greater, and the herb layer will consist of at least four native grass or herb species, or 60 percent of the native grass or herb species, whichever is greater.

- The percent cover composition of the shrub and herb layers will be determined by qualitative analysis of a target patch of vegetation. The target patch may be a different sub-type of coastal sage scrub than that being disturbed; the availability of the mitigation site will determine which sub-type is most appropriate for restoration. Factors as described herein regarding current habitat quality of the to-be-disturbed site will be measured, including total species number, number and prevalence of exotic species, and shrub and herb density. Additionally, factors contained in Chapter 4, specifically Table 4 of the RMP, shall be achieved.

Wildlife use will be measured using birds. In a patch greater than 25 acres, there will be use by at least 80 percent of the bird species found to be present in the baseline study or five scrub-requiring bird species from the following list of resident species, whichever is greater:

- Bewick's wren
- Cactus wren
- California gnatcatcher
- California quail
- California thrasher
- California towhee
- Rufous-crowned sparrow
- Rufous-sided towhee
- Sage sparrow
- Scrub jay
- Wrentit

- Potential indirect impacts shall be mitigated by providing a minimum 100-foot buffer area around all preserved coastal sage scrub. No development, landscaping or in wholesale clearing for fire management shall be allowed within the buffer area. Selective thinning for fire management shall be allowed within the buffer.

Maritime Succulent Scrub (MSS)

- The project is designed to preserve 80 percent of the maritime succulent scrub onsite.

- Disjunctive stands shall be protected, especially where they support cactus thickets and can logically be tied to a larger open space network.

- A minimum of 56 acres of maritime succulent shall be restored in conjunction with the CSS restoration of 1,300 acres.

Floodplain Scrub, Southern Willow Scrub, and Aquatic/Freshwater Marsh

- The project is designed to retain 95 percent of the floodplain scrub, southern willow scrub, and aquatic/freshwater marsh habitats. Restoration/enhancement of disturbed wetland habitat shall occur in the Otay River Valley within tamarisk/mulefat scrub habitat (See Figure 3.3-8 in the FPEIR) to mitigate the remaining impacts.

- Impacts shall be avoided through placement and design features (i.e., road location and infrastructure design) and the application of ratios as defined by the appropriate public agencies. Development shall not occur until compensation has been approved by the California Department of Fish and Game through the Streambed Alteration Agreement and/or the Corps of Engineers 404 permit process, as required in accordance with their no net loss standard.

Non-native Grassland (NNG)

- The provision of a large open space system with open habitats and native grasslands will substantially lessen this impact, however, not to a level below significance.

Valley Needlegrass Grassland/Perennial Grassland (PG)

- The project is designed to preserve 25 percent of the valley needlegrass grassland.

- High priority areas for preservation and restoration shall include the disturbed perennial grassland contiguous within the K6 vernal pool complex and large San Diego thorn-mint population north of Lower Otay Lake, and in selected areas in the Otay River parcel to be determined by subsequent field transect studies.

- A ratio of between 1:1 and 3:1 (restored to impacted habitat) shall be required.

Alkali Meadow

- The project is designed to preserve 72 percent of alkali meadow.

- Impacts shall be substantially lessened through placement and design features (i.e., road location and infrastructure design) and application of a ratio as defined

by the appropriate public agency, however, no less than 1:1 based on habitat type and quality and whether pre-establishment of in-kind habitat has occurred. Development shall not occur until compensation has been approved by the California Department of Fish and Game through the Streambed Alteration Agreement and/or the Corps of Engineers 404 permit process, as required in accordance with their no net loss standard.

- Potential indirect impacts shall be mitigated by providing a minimum 100-foot width buffer area for all alkali meadow habitat. No development or landscaping shall be allowed within the buffer areas. Impacts to alkali meadow from hydrological alterations (including potential displacement of native habitat with exotic and wetland species) shall be mitigated as described herein. The water runoff from surrounding development shall be diverted and controlled to retain the same amount and seasonality of water input existing before development. A study shall be required at the SPA level of analysis to determine existing hydrological conditions of streams containing alkali meadow and what hydrological changes will occur to these streams after development. The results of these studies shall be used to engineer the storm drain system to achieve pre-impact hydrological conditions.

Vernal Pools

- The Project is designed to preserve 95 percent of large or high value vernal pool complexes and preservation of 95 percent of all other vernal pools. The vernal pool complexes on Otay Ranch that are large or of high value and which the Project preserves include J23-24, J25 on Otay Mesa and J30; K1 and K15+ in Otay River Valley; R3 in Proctor Valley; K6, K8 and K12 are in a special study area to determine whether they should be preserved.

- The Project is designed to preserve that portion of vernal pool J29 (including J31+) containing sensitive species, including a minimum 100-foot width buffer.

- The allowed 5 percent impact to any of the lower quality vernal pool complexes shall be substantially lessened by restoration/enhancement of damaged vernal pool habitat within disturbed areas of the preserved vernal pool complexes so that no net loss of vernal pool habitat value or area occurs. Mitigation shall be consistent with the requirements of Section 404 of the Clean Water Act in accordance with their no net loss standard. Restoration shall include decompaction, sculpting and recontouring, and seeding of basins disturbed by dirt roads, trails, or scraped areas. Vernal pools shall also be enhanced through removal of exotic plant species. Reintroduction of declining vernal pool species to suitable areas for recolonization shall also be required. Impacts to vernal pool habitat shall occur

only after successful completion of the restoration program. Vernal pool restoration shall achieve the following:

- Restore the biota of individual, badly degraded vernal pools;
- Increase diversity and frequency of native biota in all disturbed vernal pools;
- Preserve and enhance vernal pools on K-6 where little mousetail occurs;
- Reduce the effect of alien plants;
- Enhance the populations of sensitive species;
- Stabilize soils on mounds and in watershed areas;
- Provide research and educational opportunities.

- Potential indirect impacts shall be mitigated by providing a minimum 100-foot width buffer area around the vernal pools and their watershed. A larger buffer area and implementation of other measures (e.g., fencing, educational signage, diversion of urban runoff), shall be required as necessary to eliminate adverse effects of drainage, trampling, vehicles, dumping, and collecting and to provide sufficient resources to support appropriate pollinators and dispersal agents.

Woodlands (Coast Live Oak Woodland, Southern Live Oak Riparian Forest, Southern Interior Cypress Forest, and Sycamore Alluvial Woodland)

- The project is designed to preserve 100 percent of the southern interior cypress forest, coast live oak woodland, and southern live oak riparian forest and sycamore alluvial woodland.

- Potential indirect impacts shall be mitigated by providing a minimum 100-foot width buffer area around the sensitive habitat, within which no development or landscaping shall be allowed. Impacts to these woodlands from hydrological alterations (including potential displacement of native woodland habitats with exotic and wetland species) shall be avoided. The storm drain system shall be engineered to achieve the pre-impact hydrology for each of the woodland habitat types.

The following mitigation measures are rejected as infeasible:

- The project is designed to preserve 80 percent of the coastal sage scrub on site. All existing CSS in Wolf and Poggi canyons and Salt Creek shall be preserved.

Rationale: The Project preserves 70 percent of the Diegan Coastal Sage Scrub (CSS) onsite rather than 80 percent, but also requires restoration of an additional 1,300 acres of CSS. Accordingly, the Project actually preserves and restores 85 percent of the CSS, a percentage that exceeds the proposed mitigation measure for preservation. The goal of the mitigation is, in short, met and, in fact, exceeded by combining preserved habitat with restored habitat. Adopting the proposed mitigation standard of 80 percent preservation is infeasible since it is effectively met by combined preservation/restoration standard as described above and would require preservation of an additional 1,150 (10 percent of 11,500 acres of CSS) acres of CSS within the Otay Ranch Project. This requirement would result in two negative impacts: (1) possible elimination of areas designated for low (L), low medium village (LMV) to medium high (MH) density development on the Otay River parcel, and (2) elimination of areas available for potential active recreation uses within the future Otay Valley Regional Park (FPEIR, Figure 3.3-8). Assuming a density range of 2-4 dwelling units per acre and elimination of 1,150 acres of development on the Otay River parcel, development potential on the Otay River parcel could be reduced by 2,300 up to 4,600 dwelling units. The area available for active park uses in the Otay River Valley could be reduced by 200 acres assuming 200 acres of additional Diegan coastal sage scrub restoration in the Otay River Valley.

The reduction in development potential on the Otay River parcel associated with the additional preservation of Diegan coastal sage scrub would adversely affect the village concept incorporated in the land use plan for this parcel. The village concept has been determined to have significant benefits with respect to community design, reduced trip generation and encouragement of transit use. (See, Statement of Overriding Considerations.) Additionally, the reduction in potential area for active recreation uses in the Otay River Valley may adversely affect future plans for the Otay Valley Regional park.

With regard to the area south and east of the lakes, the Board of Supervisors determines that there is a need to balance housing types in the South County. To this end, the Board of Supervisors is desirous of providing estate housing opportunities as reflected by the Project. The Board of Supervisors further believes that the provision of a broad range of housing types helps to attract business opportunities to a particular area. There is currently a vast amount of industrially zoned land in the City of San Diego on the Otay Mesa. A broad range of proximate housing opportunities will assist in achieving the jobs-housing balance sought in the County's General Plan.

- No clearing for fire management shall be allowed.

Rationale: For safety purposes (fire control) it is necessary to do some selective clearing. An absolute prohibition of clearing is infeasible because it does not address this safety issue.

- Purchase of approximately 1,000 acres of coastal sage scrub offsite shall be required to provide long-term protection to mitigate the impacts remaining after avoiding 80 percent of onsite habitat and restoring the high priority areas. Offsite mitigation is necessary to reduce impacts to below a level of significance and, therefore, shall not be used in lieu of avoidance or onsite restoration. Offsite mitigation shall be purchased in areas identified by the Natural Communities Conservation Program (NCCP) and the Multiple Species Conservation Program (MSCP) (if adopted) as key areas for a South County biological preserve.

- Restoration of approximately 1,500 acres of coastal sage scrub within identified high priority areas within Otay River parcel. Restoration of 1,300 acres of coastal sage scrub as described above, is found to be feasible mitigation; however, restoration of the remaining 200 acres is found to be infeasible.

- Restoration shall be completed and shown to be successful prior to impacts to CSS of five or more acres. The restoration program shall consist of a four-year experimental phase and an eight-year phase for full-scale restoration and shall be initiated with the first SPA. Because the restoration must be successfully completed prior to impact to sensitive habitats, the first SPA shall be located within non-sensitive habitats. The experimental phase of the restoration program shall include a collection of biological data to refine the locations for restoration, to obtain baseline information on adjacent undisturbed habitats, and to develop the most effective restoration methodologies. The full-scale restoration shall include a one-to-three year period for site preparation (i.e. weed removal and planting) and a five-year period for quantitative monitoring and assessment of restoration success. Horticultural monitoring and remedial maintenance shall be ongoing. The restoration must meet success criteria and be satisfactory to the appropriate jurisdiction before impact to the original sensitive habitat can occur. (All other provisions in conflict with RMP Section 4.3.1 are also rejected.)

Rationale: The Diegan Coastal Sage Scrub mitigation measures requiring offsite purchase of habitat; requiring 1,500 acres of restoration rather than 1,300 acres as the Project requires; requiring restoration and monitoring programs with four year experimental phases and eight year restoration phases prior to impacts to five acres of habitat; and requiring development reductions as described above, are rejected as infeasible for a number of reasons. Most significantly, all of these mitigation measures would significantly hamper implementation of the Resource Management Plan (RMP). Implementation of the RMP is dependent on funding from the first phases of development to acquire a Preserve Owner/Manager and implement RMP management, maintenance and restoration activities. Funds devoted to purchase of 1,000 acres of offsite habitat and implementation of a twelve year restoration program on 1,500 acres prior to impacts to five acres of CSS would not be available for RMP implementation activities. This is infeasible in that (1) the Project already sets aside approximately 50 percent of the Project's total acreage, in managed open space preserve and, therefore, need not require

an additional 1,000 acres of offsite mitigation nor an additional 200 acres of restoration, and (2) the RMP already establishes stringent criteria for demonstrating successful coastal sage scrub restoration efforts, but simply does not require an identified number of years to demonstrate success. Successful restoration efforts may require a longer or shorter period of time than set forth in the mitigation measure. It is the success of the program as measured by objective criteria that is critical, however, not the time frame.

Reductions in approved developable areas would impair the ability of the Project to obtain density sufficient to justify and support the transit-oriented design of the land use plan and the concept of the "village" that underlies the land use plan as discussed above. Requiring 1,500 acres of CSS restoration rather than 1,300 as is required by the Project, is infeasible in that an additional 200 acres of land is not available in the preserve that would be suitable for restoration. The EIR and RMP indicate that there is only a total of approximately 1,300 acres of degraded habitat available in the preserve having the qualities needed to support successful restoration. Even if additional acreage could be identified it would most likely be located in the Otay River Valley and would, if used for restoration, preclude identification of up to 400 acres of active park land for the regional park as the Project requires. For these reasons, the recommended additional mitigation measures for Diegan Coastal Sage Scrub have been determined to be infeasible.

- The Project is designed to preserve 98 percent of the maritime succulent scrub onsite.

Rationale: With regard to maritime succulent scrub preservation, the Project already preserves 80 percent of the habitat on site. The additional increment of 50 acres required by this measure (FPEIR, Figure 3.3-8) would eliminate areas designated for residential development on the Otay River parcel. Consequently, assuming a density range of 2-4 dwelling units per acre, development potential on the Otay River parcel could be reduced by 100-200 dwelling units. This reduction in development potential, particularly when coupled with the development potential reductions associated with additional preservation of the coastal sage scrub as described above, would adversely affect the village concept incorporated in the land use plan for the Otay River parcel. The cumulative effect of the additional coastal sage scrub and maritime succulent scrub mitigation measures relating to habitat preservation and restoration would also hamper implementation of the RMP as described previously.

Maritime succulent scrub is located within an area that will be affected by Orange Avenue and Otay Valley Road. Those roadways have been determined to be necessary to the circulation for the Project and are needed to obtain adequate levels of service. Although the Project, through the RMP, calls for sensitive design of these roadways, maritime succulent scrub may potentially be impacted. For these reasons, the recommended additional mitigation measures for maritime succulent scrub have been determined to be infeasible at this level of analysis.

- The Project is designed to preserve 98 percent of Alkali Meadow. The restoration of disturbed alkali meadow habitat in the Proctor Valley parcel shall be required to offset the remaining impact.

Rationale: The Project preserves 72 percent of the total Alkali Meadow habitat present on the Otay Ranch property. While much of the Alkali Meadow is present in narrow drainages on the Project site which are likely to be preserved, a broad Alkali Meadow drainage in the Proctor Valley area and Jamul Rural planning Area 16 creates a conflict both for the development of rural estates and, more particularly, the construction of Proctor Valley Road. Any relocation of Proctor Valley Road would encroach into developable areas, thus creating a need for more clustered development in Jamul Planning Area 16. As this is a transition village buffering the rural town of Jamul, any clustering in density in this village is deemed infeasible from a planning perspective in that it would create incompatible land uses adjacent to Jamul.

- The Project is designed to preserve 50 percent of Valley Needlegrass onsite.

- For Valley Needlegrass, a mitigation program including a four-year experimental phase and an eight-year maintenance and monitoring program shall be required.

Rationale: The Project preserves 25 percent of the Valley Needle Grassland, with additional habitat included in a special study area, that might, ultimately, be preserved as well. If, after analysis, this special study area is preserved, the total preserved area would be approximately 36 percent of the habitat. The preservation of the additional acreage of Valley Needle Grassland contiguous to the K6 vernal pool area would adversely affect the ability to develop a resort in the southern portion of the Proctor Valley parcel as designated in the Project and the Project objectives. The resort site designated by the Project has been determined to be the most appropriate site for a resort on the Otay Ranch property due to its separation from other potentially incompatible land uses, its location near the Olympic Training Center, its panoramic views of the Otay lakes and its topography (i.e., a mesa top elevated above the lake). Preservation of the Valley Needle Grass would result in a fragmented and significantly constrained site for the resort village rendering it infeasible from a planning perspective.

With regard to the mitigation measure requiring a four year experimental phase of restoration and an eight year maintenance monitoring program, the RMP already includes stringent criteria for demonstrating successful restoration of this habitat. It simply does not require a certain number of years to measure that success. Successful restoration may take a shorter or longer period than called for by this mitigation measure, but must ultimately meet the success criteria regardless of the time frame. As such, a mitigation measure requiring a set number of years is rejected as infeasible.

- J29 and J31 vernal pool complexes on Otay Mesa shall be preserved in their entirety. Project redesign also is required to preserve all of the vernal pools in the J31 complex along the western edge of the proposed industrial development.

- M2 vernal pool complex south of Poggi Canyon in Village 2. A park with protected natural open space to preserve this vernal pool complex shall be established.

- R1 and R2 vernal pool complexes in Proctor Valley. Proposed development shall be pulled back at southwestern edge of Village 14 to preserve the R1 vernal pool complex and provide an adequate buffer to the R2 complex.

- The following vernal pools shall be preserved in their entirety: J29 and J30, J31, R1, R2, M2, K6, K8, and K12.

- Vernal pool restoration/enhancement shall include a four-year experimental phase and an eight-year maintenance and monitoring period.

- The allowed 2 percent impact to any of the lower quality vernal pool complexes shall be mitigated by restoration/enhancement of damaged vernal pool habitat within disturbed areas of the preserved vernal pool complexes such that no net loss of vernal pool habitat value or area occurs.

- Impacts to vernal pools is designed to preserve 100 percent of large or high value vernal pool complexes and preservation of 98 percent of all other vernal pools.

Rationale: With regard to vernal pool mitigations, the proposed mitigation measures for the vernal pool complexes on the Otay Mesa are found to be infeasible as follows. While the Project does not preserve 100 percent of high quality pools and 98 percent of all other pools, it does preserve 95 percent of each, an incremental difference of 5 percent in the case of high quality pools and 3 percent in the case of all others. Much of this incremental difference is explained by the fact that the Project preserves the sensitive portions of the high quality pools such as J29, but impacts the non-sensitive portions. Preservation of the remaining 5 percent of the pools is deemed infeasible because (1) the preservation of the southern extent of J29 and J31 on Otay Mesa would significantly impair development of industrial uses on Otay Mesa as designated by the Project. Inclusion of industrial uses within the plan in this location has been considered to be compatible with other planned industrial development on Otay Mesa and desirable with respect to the overall job/housing balance desired for the Otay Ranch plan. Preservation of the southern extent of J31 and J29 would significantly impair achievement of this project objective in its most logical location (i.e., adjacent to the City of San Diego's existing industrial zoning on the Otay Mesa); (2) the preservation of the M2 complex near Poggi Canyon would preclude construction of Paseo Ranchero in its assumed alignment. This north-south circulation road is of critical importance to the overall

circulation system for the Project and the success of the village concept. As Paseo Ranchero impacts the M2 pool complex, preservation is infeasible; (3) the K6, K8 and K12 vernal pools have been identified and placed by the Project in a special study area to determine what, if anything, can be planned in these areas. No development can occur in these areas pending future studies, but the Project has not technically committed to "preserve" them yet. Identifying these pools as being "preserved" at this stage would prematurely assume the conclusions of the future studies and would defeat the purpose of placing them in a special study area. In the event that future analysis determines that these pools need to be entirely or partially preserved, preservation will be assured at the appropriate future SPA level of analysis; (4) the R1 and R2 vernal pools are directly impacted by residential development and the construction of Proctor Valley Road. The road and adjacent development have intentionally been located in the valley and the bench supporting R2 pools so as to follow the existing alignment of the road and minimize encroachment of development into steep slopes and more extensive, environmentally constrained areas elsewhere on the Proctor Valley parcel.

The RMP includes stringent criteria to demonstrate successful vernal pool restoration and enhancement. Accordingly, the mitigation measure requiring a certain number of years for such a program is rejected as infeasible. Successful restoration may require a longer or shorter period of time than called for by the mitigation measure and success will be demonstrated by conformance with the criteria not by strict compliance with a specified number of years.

With regard to the measure requiring restoration/enhancement of lower quality vernal pools such that no net loss of vernal pool habitat occurs, the mitigation measure is hereby made a requirement of the Project with regard to the 5 percent impact to lower quality vernal pools. The incremental difference between the allowed 5 percent and the 2 percent cited in the mitigation measure is infeasible for the reasons cited above.

* * *

Significant Effect: State-listed endangered plant species would be impacted. [FPEIR, Volume 2, p. 4.9.4-4 - 4.9.4-5]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will substantially lessen, however, not to a level below significance, the significant environmental effects as identified in the Final Program EIR to the following species: San Diego button-celery. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines there are no feasible mitigation measures at this level of planning to mitigate impacts below a level of significance for the above listed species. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding

considerations. Impacts to thorn-mint, Otay tarplant, willowy monardella are mitigated to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-14 through 4.9.4-17 and Table 4.2.4-9]

- Updated sensitive plant surveys shall be conducted to quantify acreage of occupied habitat and plant densities or population sizes for each SPA.

- The project shall be designed to attain the species-specific preservation standards defined below.

- Indirect impacts to preserved populations of all sensitive plant species shall be avoided or minimized by implementing the following measures:

  - Buffers (i.e., setbacks from developed, landscaped, or other use areas) shall be provided around the occupied and/or critical habitat (e.g., watershed for vernal pools, floodplain or drainage for willowy monardella) for all preserved populations. Buffers shall be of adequate size and configuration to eliminate adverse effects of trampling, vehicles, dumping, collecting, and adjacent construction, and, in conjunction with the preserved habitat, shall include sufficient resources to support appropriate pollinators. Buffer widths shall be a minimum of 50 feet. Buffer widths shall be determined on a species-specific basis and will be dependent on the sensitivity of the species, the susceptibility/tolerance of the species and/or its habitat to disturbance, and the adjacent land use.

  - Significant impacts to state listed endangered plant species shall require a mitigation plan at the SPA level of analysis. Such a plan shall include an experimental phase and a maintenance and monitoring program; however, the length of the experimental and mitigation phases shall be governed by success criteria specified in the mitigation plans rather than by a set number of years.

  - For sensitive species occurring within seasonal streams, the water runoff from surrounding development shall be diverted and controlled to retain the same amount and seasonality of water input existing before development. A study to determine existing hydrological conditions and a hydrological analysis of the streams within the proposed development that contain sensitive plant species shall be required at the SPA level of analysis. The results of these studies shall be used to engineer the storm drain system to reflect pre-impact hydrological conditions over the long term. Species occurring in intermittent streams for which the above

mitigation shall apply include willowy monardella, Otay manzanita, Orcutt's brodiaea, summer-holly, Tecate cypress, San Diego sagewort, Orcutt's bird-beak, San Diego marsh-elder, spiny rush, Campo clarkia, San Miguel savory, and Engelmann oak.

- A Fire Management Plan shall be developed in accordance with the RMP to protect and appropriately manage populations of sensitive plant species.

San Diego thorn-mint (*Acanthomintha ilicifolia*)

- The project is designed to preserve the largest San Diego thorn-mint population and 95% of the overall species onsite, including watershed, any associated critical habitat and a minimum of a 100-foot width buffer zone.

- Thorn-mint shall be introduced on appropriate soils on the Project site. The creation of artificial populations shall require seed salvage of impacted populations, nursery propagation to increase seed and sowing of seed.

- A clay soil lens suitable for San Diego thorn-mint that is not presently occupied by this species shall be used for the mitigation area. If no such area is available as determined by a plant ecologist and a soil scientist during the experimental phase of the mitigation program, acquisition and long-term protection of an offsite population shall be required.

San Diego Button-celery (*Eryngium aristulatum* var. *parishii*)

- The project is designed to preserve 95 percent of species onsite and to preserve 100 percent of species where occurring with other vernal pool indicator species.

- Vernal pools shall be restored and the species shall be re-introduced into disturbed or historical vernal pools.

Otay Tarplant (*Hemizonia conjugens*)

- The project is designed to preserve 80 percent of the species on site.

- The species shall be introduced in areas with appropriate soils, including seed salvage and nursery propagation to increase seed sowing.

Willowy Monardella

- The project is designed to preserve 100 percent of the species on site.

- Water input shall be regulated to prevent significant indirect impacts from decreased or increased water flow from the development.

- The intact population shall be monitored for 5 years to assure that indirect impacts (trampling, dumping and hydrological alterations) of the development do not jeopardize the intact population. Remedial measures (restoration, trash removal and fencing repair) must be implemented to assure preservation of the intact population.

* * *

Significant Effect: Second, third, and fourth priority plant species would be impacted. [FPEIR, Volume 2, p. 4.9.4-4 through 4.9.4-5]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid or substantially lessen the significant environmental effects as identified in the Final Program EIR. With the exception of the San Diego Goldenstar and Munz's sage, all impacts to second, third and fourth priority plant species are mitigated to a level below significance. With regard to San Diego Goldenstar and Munz's sage, implementation of the mitigation measures substantially lessen impacts, however, not to a level below significance. Pursuant to Section 15091 (a)(3) there are no other feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of certain overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-14 through 4.9.4-17 and Table 4.2.4-9]

- Sensitive plant surveys shall be conducted to quantify acreage of occupied habitat and plant densities or population sizes for each SPA.

- The project is designed to achieve the following species-specific preservation standards. (See Table 6, below.)

- Significant impacts to second, third and fourth priority plant species shall require a mitigation plan at the SPA level. The mitigation plan shall require an experimental phase and a maintenance and monitoring program; however, the length of the experimental and monitoring phases shall be governed by attainment of success criteria set forth in the species mitigation plan rather than by a set number of years.

- Indirect impacts shall be prevented through provision of buffers, manipulation of hydrological conditions, and a fire management plan.

- Indirect impacts to preserved populations of all sensitive plant species shall be avoided or minimized by implementing the following measures:

  - Buffers (i.e., setbacks from developed, landscaped, or other use areas) shall be provided around the occupied and/or critical habitat (e.g., watershed for vernal pools, floodplain or drainage for willowy monardella) for all preserved populations. Buffers shall be of adequate size and configuration to eliminate adverse effects of trampling, vehicles, dumping, collecting, and adjacent construction, and, in conjunction with the preserved habitat, shall include sufficient resources to support appropriate pollinators. Buffer widths shall be a minimum of 50 feet for second, and third priority species and 25 feet for fourth priority species. Buffer widths shall be determined on a species-specific basis and will be dependent on the sensitivity of the species, the susceptibility/tolerance of the species and/or its habitat to disturbance, and the adjacent land use.

  - For sensitive species occurring within seasonal streams, the water runoff from surrounding development shall be diverted and controlled to retain the same amount and seasonality of water input existing before development. A study to determine existing hydrological conditions and a hydrological analysis of the streams within the proposed development that contain sensitive plant species shall be required at the SPA level of analysis.

  - Species occurring in intermittent streams for which the above mitigation would apply include willowy monardella, Otay manzanita, Orcutt's brodiaea, summer-holly, Tecate cypress, San Diego sagewort, Orcutt's bird-beak, San Diego marsh-elder, spiny rush, and Campo clarkia, San Miguel savory, and Engelmann oak.

  - A Fire Management Plan shall be developed in accordance with the RMP to protect and appropriately manage populations of sensitive plant species.

Otay Manzanita (*Arctostaphylos otayensis*)

- The project is designed to preserve at least 80 percent of the species onsite, including populations in northern Jamul Mountains;

- Impacted plants shall be propagated and re-established to suitable slopes.

Orcutt's Brodiaea (*Brodiaea orcuttii*)

- The project is designed to preserve 75 percent of the species onsite.

- Water input shall be regulated to prevent significant indirect impacts from increased or decreased water flow from development; the buffer requirements and pre-impact hydrological studies and design of low-flow diversion system described above shall be implemented.

- A five-year monitoring of intact population shall be required to:

  - Identify significant indirect impacts of development (e.g., trampling, dumping, hydrological alterations); and

  - Implement remedial measures (e.g., restoration, trash removal, repair fencing, etc.).

Variegated Hasseanthus (*Dudleya variegata*)

- The project is designed to preserve 75 percent of the species onsite, including representative population(s) from each of the three parcels; and

- Impacted plants shall be transplanted to appropriate habitat and clay soils within same parcel.

San Diego Coast Barrel Cactus (*Ferocactus viridescens*)

- The project is designed to preserve 75 percent of the species onsite, including representative populations from each of the three parcels; and

- Impacted plants shall be transplanted to appropriate habitat within same parcel.

San Diego Goldenstar (*Muilla clevelandii*)

- The project is designed to preserve 54 percent of known point occurrences for the species onsite, including representative populations from each of the three parcels; and

- Corms and soil shall be salvaged and species shall be introduced in appropriate soils and habitat in protected open space within the same parcel.

San Diego Navarretia (*Navarretia fossalis*)

- The project is designed to preserve 100 percent of the presently known locations of the species and retaining all of the J29 pools complex with *Navarretia*.

Snake Cholla (*Opuntia parryi* var. *serpentina*)

- The project is designed to preserve 80 percent of the species on site; and
- Impacted plants shall be transplanted to restored coastal sage scrub in protected open space.

Narrow-leaved Nightshade (*Solanum tenuilobatum*)

- The project is designed to preserve 75 percent of the species; and
- The species shall be re-established in disturbed areas with suitable soils or introduced in suitable open space.

Delicate Clarkia (*Clarkia delicata*)

- The project is designed to preserve 75 percent of the species on site and to avoid all impacts to the population in the canyon in northeastern Jamul Mountains.

Orcutt's Bird-beak (*Cordylanthus orcuttianus*)

- The project is designed to preserve 75 percent of the species on site and to avoid all impacts to population in the canyon south of the San Diego Air Sport Center. To avoid indirect impacts in the canyon south of the San Diego Air Sports Center all canyon slopes shall also be included in open space.

San Diego Marsh-elder (*Iva hayesiana*)

- The project is designed to retain 75 percent of the species on site; and
- The species shall be revegetated at a 2:1 ratio (restored to impacted habitat) in intermittent drainages that have been disturbed;
- Container plants shall be propagated with seed collected from the Project site;
- The species shall be included in restoration of alkali meadow habitat.

Munz's Sage (*Salvia munzii*)

- The project is designed to preserve 46 percent of point occurrences for the species.

- Munz's sage-dominated coastal sage scrub shall be restored on the Project site at a 2:1 ratio (restored to impacted habitat) using seed and container plants.

Greene's Ground-cherry (*Physalis greenei*)

- Additional survey work shall be conducted to verify presence of this species; and

- If present, the project shall be designed to preserve at least 50 percent of the species; and

- The species shall be re-established or introduced into suitable habitat, using seed salvage and nursery propagation to increase seed source.

San Diego County Stipa (*Stipa diegoensis*)

- The project is designed to preserve at least 75 percent of the species on site; and

- The species shall be re-established in disturbed areas or introduced in suitable open space; the re-establishment shall include seed salvage, propagation of nursery plugs, and planting of plugs and seed.

San Diego Sunflower (*Viguiera laciniata*)

- The project is designed to retain at least 75 percent of the species; and

- *Viguiera*-dominated coastal sage scrub shall be restored at a 2:1 ratio (restored to impacted habitat) using seed from the ranch.

California Adder's-tongue Fern (*Ophioglossum lusitanicum* ssp. *californicum*)

- The project is designed to preserve at least 50 percent of the species onsite.

Coulter's Matilija Poppy (*Romneya coulteri*)

- The project is designed to preserve 50 percent of the species.

The following mitigation measures are found to be infeasible:

- With regard to San Diego Thorn-mint, a mitigation plan including a 2-3 year experimental phase and a 5-6 year maintenance and monitoring program shall be required.

Rationale: Successful restoration may require a longer or shorter period of time than called for by the mitigation measure and success will be demonstrated by conformance with the criteria not by simple compliance with a specific number of years.

- With regard to San Diego Button-celery and Otay Tarplant, a mitigation plan including a 2-3 year experimental phase and 5-8 year maintenance and monitoring program shall be required.

Rationale: Successful restoration may require a longer or shorter period of time than called for by the mitigation measure; success will be demonstrated by conformance with specific criteria not by simple compliance with a specific number of years.

- With regard to San Diego Button-celery, preservation of 98 percent of species onsite. Proposed industrial development on Otay Mesa shall be pulled back to the south to preserve all vernal pools with this species.

Rationale: The Project requires preservation of 95 percent of the onsite population of San Diego Button-celery including hundred of plants in the J23, J24 and J25 vernal pool areas. Achievement of the 98 percent to 100 percent standard outlined in the FPEIR would require preservation of the four additional vernal pools scattered about the southern extent of the J29 and J31+ vernal pool complexes on Otay Mesa. These areas do not have intact mima mound topography. Since, as described previously in these Findings, preservation of the southern extent of J29 and J31+ would render infeasible industrial development on Otay Mesa, this mitigation measure has been determined to be infeasible.

- Preservation of 75 percent of Munz's sage.

Rationale: Munz's sage is common on the Proctor Valley parcel. The Project requires preservation of 46% of onsite Munz's sage populations; this standard will ensure the continued survival of the species on the Ranch. Achievement of a 75 percent standard would require significant changes to the land use plan for Central Proctor Valley. The land use plan for central Proctor Valley calls for development of a self-contained village that would be distinctly separate from the estate development in northern Proctor Valley and the resort village to the south. Elimination of significant portions of the development in central Proctor Valley to preserve Munz's sage would render development of a self-contained village in central Proctor Valley infeasible. This mitigation measure has therefore been determined to be infeasible.

- With regard to Greene's Ground Cherry, if present, preservation of 75 percent of the species on site.

Rationale: The Project will preserve 50 percent of the points of occurrence of this species rather than 75 percent required by EIR mitigation measures. Impacts to this species likely will occur due to the construction of Hunte Parkway, a necessary circulation element road, required to serve the Project. Although it may be possible to avoid impacts in the roadway alignment to Greene's ground-cherry, site specific biological and engineering studies have not yet been completed for the roadway alignment. Given the level of information available at this time, preservation of 75 percent of the onsite population of Greene's ground-cherry has been determined to be infeasible.

In addition, it should be noted that Greene's ground-cherry *(Physalis greenei)* is no longer recognized as a separate taxa and has been determined to be the same taxon as *Physalis crassifolia. Physalis crassifolia* is widespread throughout Southern California, Arizona and New Mexico. Loss of two of the four points of observation for this species on Otay Ranch will not jeopardize the survival of this species.

- Seventy-five percent of San Diego Goldenstar shall be preserved.

Rationale: The Project will preserve 54 percent of the points of occurrence of San Diego golden-star rather than the 75% required by EIR mitigation measures. Impacts to this species will likely occur due to development within Central Proctor Valley and south and east of the lakes on the San Ysidro parcel. Central Proctor Valley has been planned as an integrated village as part of the Otay Ranch land use plan and development south and east of the lakes has been determined by decisionmakers to be desirable since it would provide high-end estate housing in the South County area. While it may be possible to preserve additional points of occurrence of San Diego golden-star within Central Proctor Valley and south and east of the lakes as part of detailed Project plans, given the need to provide a well integrated land use plan for these areas, and the level of information available at this time, preservation of 75 percent of the onsite population of *Muilla clevelandii* has been determined to be infeasible.

- For all stated listed endangered plant species, a mitigation plan including a 2-3 year experimental phase and 5-8 year maintenance and monitoring program shall be required.

Rationale: Of the seven state or federally listed plants on the Project site four are being preserved in their entirety (100 percent of willowy monardella, slender-pod caulanthus, Mexican flannel bush and Dunn's mariposa lily), two are achieving a 95 percent preservation standard with transplantation/reintroduction proposed (San Diego button celery and San Diego thorn-mint) and one is achieving 80 percent preservation standard with impacts considered to be mitigated to a level below significance (Otay tarplant).

For the plan species for which 100 percent preservation is being achieved, no mitigation in the form of transplantation is necessary. For Otay tarplant, since the 80 percent preservation standard has been determined to reduce impacts to below a level of significance, it has been determined that a transplantation program is not necessary. For San Diego thorn-mint, the mitigation measures listed herein that have been determined to be feasible and are regarded as sufficient. For San Diego button-celery, transplantation/restoration techniques will be developed as part of the vernal pool management plan to be prepared for the Phase 2 RMP. Given these factors, 7-11 year experimental and maintenance and monitoring programs have been determined to be unnecessary.

* * *

Significant Effect: Impact to Least Bell's vireo, tricolored blackbird, and the southwestern willow flycatcher habitat. [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-7]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-17 through 4.9.4-22 and Table 4.9.4-2]

Least Bells' Vireo (*Vireo bellii pusillus*) and Southwestern Willow Flycatcher (*Empidonax trailli extimus*)

- One hundred percent (or approved Habitat Conservation Plan/San Diego Multiple Species Conservation Program (HCP/MSCP) standards) of occupied habitat for these species shall be preserved.

- Prior to the first SPA containing Least Bell's habitat, the Applicant shall conduct a focused study of Least Bell's vireo distribution and abundance along Otay River and Dulzura Creek adjacent to the San Ysidro parcel. Prior to the first SPA containing Southwestern Willow Flycatcher's habitat, the Applicant shall conduct a focused study of Southwestern Willow Flycatcher's distribution and abundance along Otay River and Dulzura Creek adjacent to the San Ysidro parcel. Direct impacts from construction or expansion of the following roads to both species shall be assessed:

  - Otay Valley Road in Otay River Valley

  - Heritage Road crossing of Otay River

- La Media Road crossing of Otay River

- SR-125 crossing of Otay River

- Otay Lakes Road at Dulzura Creek

- Alta Road crossing of Otay River, if constructed.

- Any additional roads that cross or run adjacent to Otay River or Dulzura Creek that have the potential to significantly impact Least Bell's vireo.

- A mitigation plan shall be prepared and implemented for any direct impacts from road construction. Measures in the plan shall include one or more of the following as required to reduce the impact below a level of significance:

  - The project's roadways shall be designed to avoid all direct impacts to occupied vireo habitat. Potential realignments may include:

    - Otay Valley Parkway.

    - La Media Road - Design to avoid occupied habitat.

    - Otay Lakes Road.

    - Alta Road.

  - Riparian habitat shall be restored or enhanced along the Otay River Valley in exchange for impacting unoccupied potential vireo habitat.

- Prior to approval of the first SPA containing Least Bell's Vireo, the Applicant shall conduct a study of indirect impacts (see below) on this species from proposed development and roads, effects of a village center and residential housing on the Dulzura Creek Least Bell's vireo population, the effects of the proposed Otay Valley Regional Park on the Otay River population, and the effects of roads on both populations. Evaluation of impacts shall be based on the baseline data in the Final Program EIR and from current distribution and abundance data obtained from surveys conducted at the SPA level. A partial listing of potential indirect development and road impacts which shall be considered are:

  - Human activity and disturbance.

  - Noise impacts from roads and adjacent development. A noise study shall be conducted to determine noise impacts from roads adjacent to, within,

or near vireo habitat, and from development adjacent to vireo habitat (e.g., at Dulzura Creek).

- Introduced predators such as cats.

- Increased potential for brown-headed cowbird parasitism.

- Construction noise, dust, and disturbance.

- Invasion of non-native vegetation (i.e., *Eucalyptus* species, *Arundo* species, etc.)

- Artificial lighting from developed areas.

- Recreation related impacts.

- Habitat degradation and fragmentation.

- Changes in existing water quality and quantity which could negatively affect riparian habitat.

- Prior to approval of the first SPA containing Southwestern Willow Flycatcher, the Applicant shall conduct a study of indirect impacts (see below) on this species from proposed development and roads, effects of a village center and residential housing on the Dulzura Creek Southwestern Willow Flycatcher population, the effects of the proposed Otay Valley Regional Park on the Otay River population, and the effects of roads on both populations. Evaluation of impacts shall be based on the baseline data in the Final Program EIR and from current distribution and abundance data obtained from surveys conducted at the SPA level. A partial listing of potential indirect development and road impacts which shall be considered are:

  - Human activity and disturbance.

  - Noise impacts from roads and adjacent development. A noise study shall be conducted to determine noise impacts from roads adjacent to, within, or near vireo habitat, and from development adjacent to vireo habitat (e.g., at Dulzura Creek).

  - Introduced predators such as cats.

  - Increased potential for brown-headed cowbird parasitism.

  - Construction noise, dust, and disturbance.

- Invasion of non-native vegetation (i.e., *Eucalyptus* species, *Arundo* species, etc.)

- Artificial lighting from developed areas.

- Recreation related impacts.

- Habitat degradation and fragmentation.

- Changes in existing water quality and quantity which could negatively affect riparian habitat.

- If it is determined during the environmental review for SPA plans that indirect impacts from development or roads are significant, a mitigation plan shall be prepared and implemented at the SPA level. This mitigation shall be incorporated into the general mitigation plan. Mitigation measures shall be based on approved standards by the appropriate public agency(ies) in effect at the time of the SPA development. Mitigation shall parallel the recommendations in the Resource Management Plan (e.g., in regards to lighting, plantings allowed in landscaping adjacent to occupied habitat, etc.). At a minimum, the following measures shall be incorporated into the mitigation plan:

  - Restrict human access to occupied habitat in the breeding season (March 15 to August 31).

  - Require a minimum of a 100 foot biological and an adjoining 100 foot planting buffer along the edges of occupied, potential, and restored habitats.

  - As necessary, increase open space easements to buffer noise impacts pending recommendations of the noise study.

  - Implement an introduced predator management program.

  - Implement a brown-headed cowbird management program.

  - Employ measures to reduce construction impacts, including avoiding construction adjacent to or within occupied habitat during the breeding season (March 15 to August 31).

  - Limit landscaping adjacent to occupied habitat (within the buffer zones) to native vegetation.

- Restrict the use of invasive, introduced plantings in landscaping adjacent to the buffer zones.

- Restrict lighting close to occupied habitat.

- Maintain and enhance where appropriate the existing water quality and quantity in occupied, potential, and restored habitats for this species.

- Prior to approval of the first SPA, a management plan in conjunction with the RMP shall be prepared and implemented for this species. The species management plan shall include provisions for periodic monitoring of populations within the preserve as well as any significant onsite populations not included within the Management Preserve. The species management plan shall include appropriate management techniques approved by the resource agencies to maintain and, where feasible, to enhance existing onsite population(s).

Tricolored Blackbird (*Agelaius tricolor*)

- The project is designed to provide one hundred percent (or approved HCP/MSCP standards) of nesting habitat for this species.

- At the SPA level, the applicant shall conduct focused breeding surveys for this species in appropriate habitat.

- Direct and indirect impacts shall be assessed to breeding habitat from proposed development and roads. This includes assessing noise impacts from any proposed road alignments adjacent to preserved habitat.

- Preserve in natural open space all occupied and restored breeding habitat, and where feasible, potential breeding habitat.

- Include within the Management Preserve all preserved habitat.

- To mitigate for impacts to potential habitat, restore or enhance suitable breeding marsh habitat along the Otay River.

- Avoid construction of roads and other development during the breeding season (March 1 to August 31).

- Preserve in open space buffer zones around occupied, potential, and restored habitats. The minimum width of the buffer zone shall be determined at the SPA level in conjunction with, and upon the approval, of the resource agencies.

- Mitigation for foraging habitat loss shall be done in conjunction with mitigation for raptor grassland foraging habitat.

- Prepare and implement a management plan for this species.

* * *

Significant Effect: Cactus Wren and California Gnatcatcher habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4.5 through 4.9.4-7]

Finding: Pursuant to Section 15091 (a)(1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the project which will substantially lessen the significant environmental effects as identified in the Final Program EIR. Since the preservation standard for these species is 100 percent in lieu of an approved HCP/MSCP, the impact remains significant and unmitigable without major redesign. Pursuant to Section 15091 (a)(3) of the State CEQA Guidelines there are no other feasible measures which would mitigate the impact, however as described in the Statement of Overriding Considerations, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-17 through 4.9.4-22 and Table 4.9.4-2].

Cactus Wren (*Campylorhynchus brunneicapillus*)

- The Project is designed to achieve the following standards:

  - No loss of viable Cactus Wren populations;

  - Preserve adequate habitat within the Preserve to maintain no loss of viable Cactus Wren populations.

- At the SPA level, the Applicant shall reassess impacts to this species using detailed development plans, baseline data from the Final Program EIR, and updated distribution and abundance data from SPA level surveys.

  - The Applicant shall conduct focused surveys of appropriate habitat at the SPA level to determine abundance and distribution of this species prior to development. Territories shall be delineated for those individuals/pairs which occur or could occur within or adjacent to proposed development and roads.

- The Applicant shall evaluate direct impacts to territories of individuals and pairs from proposed development. Impacts to locations of pairs/individuals for which habitat has been eliminated since the start of the environmental documentation process shall also be evaluated.

- Areas of CSS/MSS habitats that shall be enhanced or restored include:

  - ♦ Agricultural lands on the mesa and in ravines bordering the west side of Salt Creek Canyon.

  - ♦ Agricultural lands, non-native grassland (NNG), and disturbed CSS habitats along the north slope of the Otay River Valley and as appropriate along the bottom of the valley.

  - ♦ Agricultural lands and NNG bordering and within Wolf Canyon, bordering and within Poggi Canyon, and along the shallow ravine identified as a gnatcatcher and cactus wren corridor linking the two canyons.

  - ♦ NNG within and adjacent to Johnson Canyon.

- Unavoidable impacts to occupied habitat shall be mitigated through habitat creation, restoration, or enhancement of disturbed habitats. Impacts to high quality potential habitat and to sighting locations for which habitat has been eliminated since the start of the environmental documentation process for the Final Program EIR shall also be mitigated through habitat creation, restoration, or enhancement. Mitigation ratios for occupied and potential habitat shall be based on accepted standards of the appropriate public agency at the time SPA development occurs, and shall be set through consultation with, and approval from, the resource agencies.

- Creation, restoration, and enhancement of disturbed habitat as mitigation for occupied habitat, shall occur prior to impacting the occupied habitat. A focused study shall document occupancy and breeding of the impacted species in the created, restored, or enhanced habitat before the occupied habitat can be impacted.

- Prepare and implement a long-term management plan for this species.

• Direct impacts shall be assessed from proposed road construction at the SPA level. Road alignments to be considered include:

  - Otay Valley Road along the northern slope of the Otay River Valley.

- Hunte Parkway along the west side of Salt Creek Canyon.

- Paseo Ranchero Road across Poggi Canyon.

- East Orange Avenue through Poggi Canyon.

- SR-125 alignment on the north slope of the Otay River Valley and through Johnson Canyon.

- Alta Road through Lower Salt Creek, if constructed.

- Palomar Street north of Poggi Canyon.

- La Media Road at the north slope of the Otay River Valley.

- Any other proposed roads with potential to impact occupied or potential habitat.

- A mitigation plan shall be prepared and implemented for significant direct impacts to the species from road construction.

  - Alignments shall be redesigned to achieve Project standards. Potential realignments may include:

    - ♦ Otay Valley Road

    - ♦ Hunte Parkway

    - ♦ Paseo Ranchero Road

    - ♦ East Orange Avenue

  - All roads crossing gnatcatcher and cactus wren corridors shall conform to the recommendations of the Otay Ranch Wildlife Corridor Study.

California Gnatcatcher (*Polioptila californica*)

- The Project is designed to preserve 70 percent of California Gnatcatcher habitat onsite, to restore an additional 15 percent of California Gnatcatcher habitat and to preserve 52 percent of documented pairs and individuals.

- Impacts in the following areas shall be assessed and Project standards achieved:

  - Otay Lakes Road through the Jamul Mountains.

- Proctor Valley Road through the disjunct L-shaped parcel.

* * *

The following mitigation measures were rejected as infeasible:

- The Applicant shall develop and implement a mitigation plan to avoid, reduce, and otherwise mitigate direct impacts from proposed development to a level below significance. This SPA level mitigation plan shall include at a minimum the following measures:

  - Redesign to avoid development impacts to occupied habitat. Unmitigable coastal sage scrub/maritime succulent scrub (CSS/MSS) areas for this species that shall be preserved as natural open space are:

    - Salt Creek drainage - preserve entire drainage from rim to rim and any adjacent or nearby areas with CSS/MSS.

    - Poggi and Wolf Canyons - preserve both canyons from rim to rim and any adjacent or nearby areas with CSS/MSS.

    - Existing CSS on Rock Mountain and all existing CSS/MSS on the north slope of the Otay River Valley.

- Preservation of all occupied CSS within Jamul Rural Planning Area 16.

- Preservation of all occupied CSS on the southwest slope of the Jamul Mountains and south and east of Upper Otay Lake.

- Preservation of all CSS and any other occupied habitat south of Lower Otay Lake and Dulzura Creek.

- Preservation of 100 percent of the occupied habitat and points of occurrence of the cactus wren.

- Preservation of 100 percent of the occupied habitat and points of occurrence of the California Gnatcatcher.

Rationale: The proposed mitigation measures require preservation of 100 percent of the occupied habitat of the California gnatcatcher, including all occupied CSS within Jamul Rural Planning Area 16, on the southwest slope of the Jamul mountains and south and east of Upper Otay Lake, in the Salt Creek drainage area, Poggi and Wolf Canyons, Rock Mountain, the north slope of the Otay River Valley and south of the Lower Otay Lake and Dulzura Creek. This is infeasible for a number of reasons.

First, it should be noted that the Project requires a minimum of 85 percent of existing coastal sage scrub habitat to be preserved and restored. This means that there is an actual net loss of 15 percent of the CSS. Even if all occupied coastal sage were preserved, it would not result in preservation of 100 percent of the current population. Indeed, there are significant patches of coastal sage that, even if preserved, would -- by virtue of surrounding development -- become isolated, fragmented pockets of sage that would ultimately succumb to the intrusion of the surrounding human environment, resulting in a loss of gnatcatcher population. What the Project does, instead, is to preserve comprehensive, integrated open space systems in a maintained preserve, rather than isolated patches of habitat. If all occupied habitat is preserved, densities would be reduced such that there would not be a RMP; resulting in open space, but not managed open space with restoration, enhancement and protection functions.

Preservation of all occupied habitat, including those areas specifically identified in the mitigation measures, would result in significant, fundamental changes to the overall land use plan and the goals of that plan. The development south and east of the lakes on the San Ysidro parcel would be eliminated. The record reflects that the development of this community as a large lot, rural estate-type, "premium" community is an important objective of the project. This particular location offers a unique opportunity for such a community. The plan proposes pockets of developable land interspersed among more sensitive habitat. The large estate lots will have panoramic views of the lake and will be surrounded by the open space of the preserve, as well as by the extensive BLM property immediately adjacent to the south. The decisionmakers have determined that a broad range of housing types is beneficial to the Project and to the Southbay because such a broad range of housing types assists in meeting the jobs/housing balance identified in the County General Plan.

With regard to the occupied habitat on the southwest slope of the Jamul Mountains and south and east of the Upper Otay Lake, this area, again, achieves one of the principal objectives of the project - i.e., the development of a resort village. This property was determined to be uniquely situated to achieve this goal. Topographically, it is located on an elevated mesa top looking out over the Otay Lake. Geographically, it is sufficiently isolated from land uses that would be incompatible with resort-oriented development, yet proximate enough to surrounding uses such as the Olympic Training Center, the lakes and the eastern urban center, thus creating synergism between the different land uses. Given this unique location and features for the resort, it is infeasible in this area to preserve 100 percent of the occupied habitat. Finally, preservation of all occupied gnatcatcher habitat would have significant impacts on the ability to plan road systems (SR 125, Orange Avenue, Paseo Ranchero, Otay Valley Road, La Media); the recreational uses in Poggi and Wolf Canyons; the university and the overall densities and village concept.

The proposed mitigation measures require preservation of 100 percent of all points of occurrence of pairs/individuals and 100 percent of occupied habitat. Preservation of the

144 points of occurrence would require preservation of 2,542 acres of occupied habitat (144 points of occurrence multiplied by 18 acres within the polygon surrounding the documented siting). The approved Project preserves 75 of the identified pairs/individuals (52 percent of the 144 sitings) or 1,350 acres of occupied habitat while not preserving 1,242 acres of occupied habitat. The habitat not preserved occurs primarily in that area south and east of the lakes, an area defined by the decisionmakers as Estate housing. The decisionmakers have determined that a fundamental planning objective of the Project is the provision of Estate housing to provide a broad range of housing types and to help effectuate a jobs-housing balance in the region. The area south and east of the lakes is determined to be the most appropriate location for Estate housing because of the panoramic views of the lake, the relative isolation of property, and the fact that the property is surrounded by open space (BLM ownership). Additionally, the decisionmakers have determined that a resort and supporting residential uses immediately north of the lake is another fundamental planning objective. The resort's location was selected by the decisionmakers because of its relative isolation, proximity to the lake and Olympic Training Center, accessibility and location on a mesa overlooking the lake with vistas to the mountains. Finally, for the reasons set forth in these findings the decisionmakers encourage residential density on the Otay River parcel to support transit, pedestrian and bicycle usage and trips by other than the single occupancy vehicle.

The reduction in development potential on the Otay River parcel associated with the additional preservation of Diegan coastal sage scrub would adversely affect the village concept incorporated in the land use plan for this parcel. The village concept has been determined to have significant benefits with respect to community design, reducing trip generation and encouraging transit use. (See, Statement of Overriding Considerations)

The reduction in potential area for active recreation uses in the Otay River Valley may adversely affect future plans for Otay Valley Regional park. Specific effects cannot be determined until plans for the park have progressed further.

- Preservation of 100 percent of the occupied habitat and points of occurrence of the cactus wren.

Rationale: Preservation of 100 percent of the cactus wren occupied habitat is also infeasible. While most of the significant concentrations of the cactus wren will be preserved (e.g., Salt Creek) some of the habitat -- most notably in Poggi Canyon -- could be impacted by infrastructure necessary for the Project to achieve required levels of service. Orange Avenue, for example, is a circulation element road that is vital to the circulation system for the Project. The extension of Orange Avenue as it is already constructed offsite will take the road through Poggi Canyon and necessarily impact cactus wren habitat. Additionally, the Project must comply with the mitigation measure requiring no loss of viable cactus wren populations and requiring that adequate habitat be included in the preserve to maintain no loss of viable cactus wren populations.

* * *

Significant Effect: Riverside fairy shrimp habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-6]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-17 through 4.9.4-22 and Table 4.9.4-2]

Riverside Fairy Shrimp (*Streptocephalus woottoni*)

- One hundred percent (or approved HCP/MSCP standards) of occupied habitat for this species shall be preserved.

- At the SPA level, the Applicant shall conduct a focused study of the distribution and abundance of these species within vernal pool habitat on Otay Ranch.

- The Applicant shall assess direct and indirect impacts to occupied and potential habitat (including vernal pools and associated watersheds) from proposed development and roads. The following is a partial listing of impacts which shall be considered:

    - Direct impacts to occupied and potential habitat (including vernal pools and associated watersheds).

    - Modifications of the watershed from development or roads which could change the water availability and water quality (e.g., pool chemistry) in vernal pools. Any changes to the watershed or vernal pools themselves could affect this species in an adverse way.

    - The introduction of harmful chemicals into vernal pools through runoff from adjacent development, roads, and other land uses.

    - Habitat degradation and fragmentation from adjacent development and roads.

    - The introduction and proliferation into potential or occupied habitat of sensitive fairy shrimp, competitor species, such as *Branchinecta lindahli*. Harmful competitors could be introduced through the habitat restoration

and enhancement process or through improper fairy shrimp reintroduction techniques.

- Any adverse impacts from increased human activity and presence (e.g., off-road vehicle activity, trampling of pools, illegal dumping, etc.).

- A mitigation plan shall be prepared and implemented for significant direct and indirect impacts from proposed development or roads. The following shall be incorporated into the mitigation plan:

  - Preserve vernal pool complexes and associated watersheds where this species occurs or has the potential to occur. The project shall be designed to avoid impacts to all occupied habitat. Additionally, the Project is designed to avoid all impacts to the greatest extent feasible, including impacts to potential habitat.

  - Include within the Preserve all occupied, restored, vernal pool habitat and associated watersheds.

  - Provide a 100 foot buffer around all preserved vernal pool complexes and associated watersheds.

  - Restore or enhance disturbed vernal pool habitat to mitigate for unavoidable direct impacts to potential habitat or for indirect impacts to occupied habitat. Mitigation ratios for potential vernal pool habitat shall be based on accepted standards at the time that SPA development occurs, and shall be established through consultation with, and approval from, the resource agencies.

  - Restore or enhance already disturbed habitat prior to impacting potential vernal pool habitat.

  - As mitigation for impacts to potential habitat, conduct a study at the SPA level concerning the feasibility of reintroducing this species into restored or enhanced vernal pool habitat. If feasible, use approved methodologies for introduction and monitoring of reintroduced populations.

  - Maintain connectivity, to the extent feasible, within preserved vernal pool complexes and between adjacent or nearby vernal pool groups.

  - Develop and implement a plan to eliminate harmful runoff from development and roads while still maintaining sufficient water supply for maintaining and where appropriate enhancing occupied, potential, and restored vernal pool habitat.

- A management plan shall be prepared and implemented for these species.

The following mitigation measures are found to be infeasible:

- Include within the Preserve all potential vernal pool habitat.

- Maintain absolute connectivity between vernal pool complexes.

Rationale: Virtually all areas of the Project evidencing clay soils with a potential for ponding water are "potential vernal pool habitat." Preservation of all such areas would be infeasible as it would prohibit development of the entire industrial area of Otay Mesa and other areas in the San Ysidro parcel. As previously noted, the Project objectives require development in these areas. As for connectivity between pool complexes, the Project preserves a variety of vernal pools in disparate locations throughout the property. Connection of these complexes is infeasible topographically. Any connection would require significant revision of the land plan to eliminate development. Even connection of proximate pools (e.g., R6, R8 and R12 may be physically infeasible and might eliminate resort and residential development).

* * *

Significant Effect: San Diego Vernal Pool Fairy shrimp habitat would be impacted [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-6]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alternations have been required in, or incorporated into, the Project which will substantially lessen the significant environmental effects as identified in the Final Program EIR. Pursuant to 15091 (a) (3) of the State CEQA Guidelines, there are no other feasible measures which would mitigate this impact, however, as described in the Statement of Overriding Considerations, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-17 through 4.9.4-22 and Table 4.9.4-2]

San Diego Vernal Pool Fairy Shrimp (*Branchinecta sandiegensis*)

- The Project is designed to preserve 95 percent of occupied habitat for the species where co-occurring with vernal pool habitat.

- At the SPA level, the Applicant shall conduct a focused study of the distribution and abundance of these species within vernal pool habitat on Otay Ranch.

- The Applicant shall assess direct and indirect impacts to occupied and potential habitat (including vernal pools and associated watersheds) from proposed development and roads. The following is a partial listing of impacts which shall be considered:

  - Direct impacts to occupied and potential habitat (including vernal pools and associated watersheds).

  - Modifications of the watershed from development or roads which could change the water availability and water quality (e.g., pool chemistry) in vernal pools. Any changes to the watershed or vernal pools themselves could affect this species in an adverse way.

  - The introduction of harmful chemicals into vernal pools through runoff from adjacent development, roads, and other land uses.

  - Habitat degradation and fragmentation from adjacent development and roads.

  - The introduction and proliferation into potential or occupied habitat of sensitive fairy shrimp, competitor species, such as *Branchinecta lindahli*. Harmful competitors could be introduced through the habitat restoration and enhancement process or through improper fairy shrimp reintroduction techniques.

  - Any adverse impacts from increased human activity and presence (e.g., off-road vehicle activity, trampling of pools, illegal dumping, etc.).

- A mitigation plan shall be prepared and implemented for significant direct and indirect impacts from proposed development or roads. The following shall be incorporated into the mitigation plan:

  - Provide a 100 foot buffer around all preserved vernal pool complexes and associated watersheds.

  - Restore or enhance disturbed vernal pool habitat to mitigate for unavoidable direct impacts to potential habitat or for indirect impacts to occupied habitat. Mitigation ratios for potential vernal pool habitat shall be based on accepted standards at the time that SPA development occurs, and shall be established through consultation with, and approval from, the resource agencies.

  - Restore or enhance already disturbed habitat prior to impacting potential vernal pool habitat.

- As mitigation for impacts to potential habitat, conduct a study at the SPA level concerning the feasibility of reintroducing this species into restored or enhanced vernal pool habitat. If feasible, use approved methodologies for introduction and monitoring of reintroduced populations.

- Maintain connectivity, to the extent feasible, within vernal pool complexes and between adjacent or nearby vernal pool groups.

- Develop and implement a plan to eliminate harmful runoff from development and roads while still maintaining sufficient water supply for maintaining and where appropriate enhancing occupied, potential, and restored vernal pool habitat.

- A management plan shall be prepared and implemented for these species.

The following mitigation measures are found to be infeasible:

- One hundred percent (or approved HCP/MSCP standards) of occupied habitat for this species shall be preserved.

- Include within the Preserve all potential vernal pool habitat.

- Maintain absolute connectivity within vernal pool complexes and between adjacent or nearby vernal pool groups.

- Preserve vernal pool complexes and associated watersheds where this species occurs or has the potential to occur. The Project shall be designed to avoid impacts to all occupied habitat. Additionally, the Project is designed to avoid all impacts to the greatest extent feasible, impacts to potential habitat.

- Include within the Preserve all occupied, restored, vernal pool habitat and associated watersheds.

Rationale: San Diego fairy shrimp can occur any place where seasonal water may pond or persist more than 1-2 weeks including road ruts, scrapes and other places that do not support vernal pool indicator species or any other sensitive organisms. Preservation of 100 percent of occupied habitat could result in elimination of development anywhere on Otay Ranch that such ponded water occurs including non-sensitive habitat areas such as road ruts and scrapes. Since it could adversely affect the overall land use plan for Otay Ranch throughout the Ranch, achievement of the 100 percent standard has been determined to be infeasible.

Virtually all areas of the Project evidencing clay soils with a potential for ponding water are "potential vernal pool habitat". Preservation of all such areas would be infeasible as

it would prohibit development of the entire industrial area of Otay Mesa and other areas in the San Ysidro parcel. As previously noted, the Project objectives encourage development in these areas.

* * *

Significant Effects: Harbison's dun skipper, Hermes copper, Thorne's hairstreak, and Quino checkerspot habitat would be impacted. [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-6 and Table 4.9.4-2]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures have been found to be feasible and have been required either as a condition of approval or have been made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-18 through 4.9.4-21]

Harbison's Dun Skipper *(Euphyes vestris harbisoni)*

- One hundred percent (or based on approved HCP/MSCP standards) of occupied habitat shall be preserved.

- The Applicant shall assess direct and indirect impacts from proposed development and roads.

- A mitigation plan shall be prepared and implemented for significant impacts. The following measures shall be incorporated into the mitigation plan:

    - The project is designed to avoid impacts to occupied habitat.

    - Preserve in natural open space all occupied habitat. Preserve in natural open space, high quality potential habitat (including all southern live oak riparian forest), and locations where the host plant, San Diego sedge *(Carex spissa)* occurs.

    - Enhance as appropriate, unoccupied southern live oak riparian habitat in preserve areas through the introduction of San Diego sedge.

    - Incorporate a minimum of 75 percent of preserved habitat for this species into the Management Preserve.

    - Maintain, and enhance as appropriate, the existing water quality and quantity in habitat preserved for this species.

- A management plan for this species shall be developed and implemented.

The following mitigation measure is found to be infeasible:

- The Applicant shall conduct focused surveys for this species in appropriate habitat.

Rationale: Because the Project requires 100 percent preservation of the host plant of the species (San Diego sedge) there is no need to conduct detailed studies regarding the location of the species.

Hermes Copper *(Lycaena hermes)*

- One hundred percent (or approved HCP/MSCP standards) of occupied habitat for this species shall be preserved.

  - At the SPA Level, the Applicant shall conduct focused surveys for this species in appropriate habitat.

  - The Applicant shall assess direct and indirect impacts from proposed development and roads.

  - A mitigation plan for significant impacts shall be prepared and implemented. The following measures shall be incorporated into the mitigation plan:

    - The project is designed to avoid impacts to occupied habitat.

    - Where appropriate, implement mitigation for this species in conjunction with mitigation for other species.

  - A management plan for this species shall be developed and implemented.

Thorne's Hairstreak *(Mitouri thornei)*

- One hundred percent (or approved HCP/MSCP standards) of occupied habitat shall be preserved.

  - At the SPA Level, the Applicant shall conduct focused surveys for this species in appropriate habitat.

  - The Applicant shall assess direct and indirect impacts from proposed development and roads.

- A mitigation plan for significant impacts shall be prepared and implemented. The following measures shall be incorporated into the mitigation plan:

    - ♦ The project is designed to avoid impacts to occupied habitat.

    - ♦ Preserve in natural open space all occupied habitat and potential habitat in Tecate cypress *(Cupressus forbesii)* stands.

- A Fire Management Plan shall be prepared and implemented to prevent catastrophic wildfire destruction of the larval host, Tecate cypress. The fire control measures should include as a minimum, the following measures:

    - ♦ Prohibition of recreational off-road vehicle activity in the San Ysidro parcel.

    - ♦ Restriction of camp fires to designated areas.

    - ♦ Banning of gun shooting in the San Ysidro parcel.

    - ♦ Development of a public wildfire education and prevention program.

    - ♦ Development and implementation of a program for conducting controlled burns.

- A management plan for this species shall be developed and implemented.

Quino Checkerspot *(Euphydryas editha quino)*

- One hundred percent (or approved HCP/MSCP standards) of occupied habitat required for this species shall be preserved.

    - At the SPA level, the Applicant shall conduct focused surveys for this species in appropriate habitat.

    - The Applicant shall assess direct and indirect impacts from proposed development and roads.

    - A mitigation plan for significant impacts shall be prepared and implemented. The following measures shall be incorporated into the mitigation plan:

- ♦ The project is designed to avoid impacts to occupied habitat.

- ♦ Preserve in natural open space all occupied habitat.

- ♦ Preserve historical habitat in conjunction with mitigation for other species (e.g., *Streptocephalus woottoni*).

- ♦ Introduce into vernal pools where appropriate, native *Plantago* species, the larval hosts for Quino checkerspot.

* * *

Significant Effect: California red-legged frog and southwestern pond turtle would be impacted. [FPEIR, Volume 2, p. 4.9.4-6 and p. 4.9.4-7]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-18 through 4.9.4-22 and Table 4.9.4-2]

California Red-legged Frog (*Rana aurora draytoni*) and Southwestern Pond Turtle (*Clemmys marmorata pallida*)

- One hundred percent (or approved HCP/MSCP standards) of occupied habitat required for this species shall be preserved.

  - At the SPA level (affecting occupied habitat for these species), the Applicant shall conduct focused surveys for this species in appropriate habitat.

  - The Applicant shall assess direct and indirect impacts from proposed development and roads.

  - A mitigation plan shall be prepared and implemented for significant impacts. The following measures shall be incorporated into the mitigation plan:

    - ♦ Preserve in natural open space all occupied habitat. Preserve in open space, as feasible, potential aquatic habitat.

- Enhance or restore as appropriate, disturbed wetlands adjacent to occupied habitat and in the Otay River, to mitigate for indirect impacts to occupied habitat and impacts to potential habitat.

- Restore or enhance currently disturbed aquatic habitat prior to impacting potential aquatic habitat.

- Preserve in open space, buffer zones around occupied, potential, and restored habitats. The minimum width of the buffer zone shall be determined at the SPA level in conjunction with, and upon the approval of, the resource agencies. Retain connectivity between upland habitats, identified as essential at the SPA level for this species, and adjacent occupied, potential, and restored aquatic habitats.

- Preserve occupied and potential upland nesting habitat for Southwestern Pond Turtles which is adjacent to occupied, potential, or restored aquatic habitat.

- A management plan shall be developed and implemented for these species. Provisions shall be made for controlling introduced predators of these species (e.g., bullfrog and large-mouth bass).

The following mitigation measure is rejected as infeasible:

- The project is designed to avoid impacts to potential aquatic habitat.

Rationale: The rejected mitigation measure requires preservation of 100 percent of occupied habitat for the red-legged frog and pond turtle. Requiring avoidance of "potential" aquatic habitat lacks definition and is confusing. Aquatic habitat has been mapped in areas proposed for road alignments and development. With regard to road alignments, at the SPA level, further mapping will be required; in determining road alignments the decisionmakers may need to balance impacts to aquatic habitat against other potential environmental damage, i.e., impacts to steep slopes. Consequently, these decisions are more appropriately left for the SPA level of analysis.

The same analysis is true for development areas; when more precise plans are available final decisions regarding location of development can be made taking into consideration all environmental issues.

* * *

Significant Effect: Forty-nine (49) other sensitive wildlife species may be impacted. [FPEIR, Volume 2, p. 4.9.4-5 through 4.9.4-7]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effects as identified in the Final Program EIR. The supporting habitats for these invertebrate, reptile, amphibian, and small mammal species on Otay Ranch have been identified and delineated. On Otay Ranch the majority of these habitats are considered sensitive or are found in rugged, steep, and remote areas which are not suitable for development. The deduction was that evaluation of primary habitats would assess potential impacts to these species at the program level. This is a similar logic to that employed in the Multiple Species Conservation Program (MSCP) and Natural Communities Conservation Program (NCCP) where representative species are evaluated target species, or umbrella species are evaluated. Typically, many of the species lacking in baseline data are difficult to detect or identify without specialized surveys. For these reasons, impact evaluations are often tied in with an assessment of umbrella habitats (e.g., aquatic habitats and southwestern pond turtle *(Clemmys marmorata pallida)* and two-striped garter snake *(Thamnophis hammondii)*; vernal pools and fairy shrimp species; coastal sage scrub and San Diego horned lizard *(Phrynosoma coronatum blainvillei)* and orange-throated whiptail *(Cnemidophorus hyperythrus))*. Due to the large area, duration of the Project (estimated buildout over 30 to 50 years), costs of surveys, and the constantly changing population of species, it was considered reasonable at the Program EIR level to evaluate impacts to hard-to-detect animal species through impacts to primary habitats. More specific surveys and studies are required at the SPA Plan level (see Tables 3.3-7, 4.2.4-5, 4.7.4-3, and 4.9.4-2) when there will also be more detailed project information (e.g., infrastructure and road alignments). Focused surveys shall be required for the orange throated whiptail and San Diego horned lizard. Because buildout will occur over such a long time period, focused surveys prior to each phase of development will more accurately reflect the distribution, abundance and cumulative impacts of sensitive species at the time of development.

Because habitat for invertebrates, reptiles, amphibians, and small mammals was fully surveyed, focused surveys or special studies for invertebrates, reptiles, amphibians, and small mammals were deemed to be redundant at the programmatic level. In other words, this FPEIR has assumed the presence of certain species because of the occurrence of their habitat. Biologists familiar with the study area made determinations about which habitats and which species should be studied. Such determinations are consistent with the County's Biological Survey Guidelines. Lack of distribution and abundance information in a number of areas was initially identified by the Otay Ranch Biological Subcommittee and subsequently presented in data gap documents (see Otay Ranch Technical Reports, Volume IV, Biology). Data gap documents were requested to provide information in addition to that provided by baseline surveys for preparation of the Program EIR. Additional data gaps will be filled in the Phase II Resource Management Plan and at the Specific Plan EIR level (Tables 3.3-7, 4.2.4-5, and 4.9.4-2) as part of required ongoing studies. The Otay Ranch Biology Subcommittee had over 40 meetings between 1989 and 1991 in which biological resource issues were discussed (see Section 3.3.1.1 of the Draft Program EIR). Representatives from the United States Fish and Wildlife Service

(USFWS), California Department of Fish and Game (CDFG), San Diego County, other local agencies, and consulting firms associated with the Otay Ranch Project attended these meetings on a regular basis. The subcommittee determined that existing baseline data were sufficient to proceed with a program level EIR.

Another factor adding to the difficulty of obtaining baseline information on wildlife is that the list of sensitive animals species is in a continual state of flux. Since the first draft of the Program EIR was produced in August 1991, there have been over 37 state or federal changes or proposed changes in sensitivity status for animals which could occur in the Otay Ranch Project area. Twenty-eight species gained USFWS Candidacy or CDFG Species of Special Concern status during this period. Of these 28 species, 22 had no prior state or federal sensitivity status and had to be incorporated into the Draft Program EIR late in the process. The USFWS emphasizes the monitoring of species for which available scientific information indicates imminent threat. The Otay Ranch Biological Subcommittee identified such species during its review of the data base and required that these data gaps be filled. In addition, the USFWS has listed a large number of candidate species (Category 2). These species are described as follows (Fed. Reg. 56(225):5880): "The Service emphasizes that these taxa are not being proposed for listing by this notice, and that there are no current plans for such proposals unless additional supporting information becomes available. Further biological research and field study usually will be necessary to ascertain the status of taxa in this category. It is likely that many will be found not to warrant listing, either because they are not threatened or endangered or because they do not qualify as species under the definitions in the Act. The Service hopes that this notice will encourage necessary research on vulnerability, taxonomy, and/or threats for these taxa." The Draft Program EIR requires focused surveys for these species at the SPA Plan Level as the buildout of Otay Ranch proceeds. Additionally, the Project approval imposes mitigation requiring the preservation of certain percentages of habitats and species. Accelerated field studies could be required if the status of any of these species changes. The proliferation of sensitive species in the Otay Ranch Project area undoubtedly will continue over the 30- to 50-year buildout. Surveys prior to each SPA Plan development will more accurately target those species which are considered sensitive at that point in time, thus allowing for the formulation of mitigation in addition to that mitigation required by this approval.

Another consideration is that it is not reasonable or financially feasible to require detailed surveys for the program level EIR which need to be repeated at the SPA Plan level. The general nature of the development plan, with a lack of specific planning detail and large scale mapping at the program level, requires further, more detailed evaluation of impacts at the SPA Plan level when site specific plans are available. At the program level, issues and potential impacts to sensitive animals were identified and recommended for further study at the SPA level. (Tables 3.3-7, 4.2.4-5, and 4.9.4-2). (See also Table 6 above.) If major project redesign were required to reduce or avoid impacts but was not feasible or did not meet the goals of the development plan, then the impact was considered unmitigable for that species (see Sections 3.3.4, 4.2.4.3, 4.3.4.3, 4.4.4.3, 4.5.4.3,

4.6.4.3, 4.7.4.3, and 4.9.4.3). This type of evaluation will also be conducted at the SPA Plan level.

Table 6 provides information for each sensitive animal species which could occur in the Otay Ranch Project area. The table presents habitat affinities, recommended measures to reduce impacts at the program level, requirements for ongoing study and reduction of impacts at the SPA Plan level, minimum preservation standards, and umbrella habitats associated with each sensitive species. Abundance and distribution information was used in the Final Program EIR (Tables 3.3-7, 4.2.4-5, and 4.9.4-2) for those species for which it was available. This information was used in quantitatively assessing impacts and recommending mitigation to avoid or reduce impacts. An overall categorization of impacts to habitats supporting sensitive animal species is also presented in the Final Program EIR (Tables 3.3-7, 4.2.4-5, and 4.9.4-2). This evaluation was based on habitat affinities (presented in Table 6) and delineated impacts to habitats (Tables 3.3-5, 4.2.4-1, 4.7.4-1, and 4.9.4-1).

Regional and local records were used in evaluating the potential for various sensitive species to occur within the Otay Ranch Project area. For some species, evaluation of habitat impacts is the basis for determining potential impacts at the program level. Conversely, the preservation of sensitive umbrella habitats recommended by the Draft Program EIR (see Sections 3.3.3, 4.2.4.2, 4.3.4.2, 4.4.4.2, 4.5.4.2, 4.6.4.2, 4.7.4.2, and 4.9.4.2) and retention of non-sensitive, undevelopable habitats in open space forms the basis for preservation of each of these species at this level of analysis. Minimum standards for preservation are based on preserving occupied habitat and in some cases on preserving individual animals. These standards are primarily based on the same rationale used to determine the significance of impacts in the Draft Program EIR (See Section 3.3.2.4). Requirements for ongoing studies, further assessment of impacts, and preparation of mitigation at the SPA level are given in Table 6 and are also based on recommendations in the Draft Program EIR (Tables 3.3-7, 4.2.4-5, 4.7.4-3, and 4.9.4-2).

The use of a designation like "potentially significant" reflects the extent of available data, the feasibility of the implementation of the mitigation measures, and the level of detail of the project data (e.g., 1" = 1000' scale mapping). The significance of impacts to biological resources from each development plan reflects a worst-case approach in the Final Program EIR. Analysis of Significance sections (3.3.4, 4.2.4.3, 4.3.4.3, 4.5.4.3, 4.6.4.3, and 4.9.4.3) have been revised in the Final Program EIR for potentially significant wildlife species to reflect this worst-case approach in terms of determining significance and mitigability of impacts. Detailed studies are required at the SPA Plan level to finally determine the significance of potential impacts to define specific mitigation measures. Pursuant to section 15091 (a)(3) of the State CEQA Guidelines, there are no feasible measures at this level of planning to mitigate potential impacts below a level of significance. As described in the Statement of Overriding

Considerations, however, the Board of Supervisors has determined that this potentially significant impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, Section 3.3.3]

- Detailed studies shall be required at the SPA level to determine distribution and abundance. Assessment of impacts, preparation and implementation of mitigation for significant impacts shall also be required for those species found to occur onsite.

  - Preserve habitat in open space (see page 3.3-108).

  - Incorporate open space into the Management Preserve (see page 3.3-108).

  - Restore/enhance disturbed habitat (see page 3.3-108).

- See Table 6 (from FPEIR), which follows. It should be noted that the reference to the MSCP/HCP in the minimum preservation also includes other appropriate regional standards

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Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Orange-throated whiptail *Cnemidophorus hyperythrus*	CSC, C2	Found primarily in coastal sage scrub habitats with 50% shrub cover. Can also be found in open weedy areas, road cuts, edges of riparian areas, and open chaparral habitats. Occurs on hillsides, ravines, mesas, and sandy washes. Prefers habitats that have not burned in the last five years, which provide rocks, sand, and leaf litter, and which support high densities of subterranean termites (e.g., Reticulitermes hesperus).	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80% or MSCP'	Preserve coastal sage scrub and riparian habitats. Retain in open space; washes, drainages, and chaparral habitats in rugged, inaccessible, or steep terrain unsuitable for development.
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	C2	Variety of habitats; coastal sage scrub, chaparral, woodlands, and riparian edges. Often associated with sandy washes.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub, woodland, and riparian habitats. Retain in open space; sandy washes and chaparral habitats in rugged, remote, or steep terrain unsuitable for development.
Silvery legless lizard *Anniella pulchra pulchra*	CSC	Found in a variety of open habitats with sparse cover; beaches, chaparral, coastal sage scrub, woodlands, and streamside edges. Often associated with bush lupine. Requires sand, loose soil or leaf litter for burrowing.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub and woodland habitats. Retain in open space; sandy washes, drainages, and chaparral habitats in rugged, inaccessible, or steep terrain unsuitable for development.
Coastal rosy boa *Lichanura trivirgata roseofusca*	C2	Coastal sage scrub and chaparral habitats. Strongly associated with rocks and boulders. Often found on hillsides, in canyons, often near springs or streams, and in washes.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub habitats. Retain in open space; chaparral habitats, canyons, washes, and rocky hillsides in rugged, inaccessible, or steep terrain unsuitable for development.
San Diego ringneck snake *Diadophis punctatus similis*	C2	Woodland, chaparral, grassland and streamside habitat. Found in moister microhabitats. Require decaying logs, rocks, and debris for cover.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve woodland, grassland, wetland, and riparian habitats. Retain in open space; rugged, remote, or steep drainages unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
San Diego banded gecko *Coleonyx variegatus abbotti*	C2	Arid habitats (often near sandy flats or washes). Along coastal slope found in granite outcrops or rocky hillsides in coastal sage scrub and chaparral habitats.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub habitats. Retain in open space: rocky hillsides and chaparral habitats in rugged, remote, or steep terrain unsuitable for development.
San Diego horned lizard *Phrynosoma coronatum blainvillei*	CSC, C2	Coastal sage scrub, open chaparral, and sandy flat areas. Found on mesas, ravines, and hillsides. At higher elevations can occur in open woodlands. Requires sandy soils, leaf litter, and harvester ant nests.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80% or MSCP	Preserve coastal sage scrub habitats. Retain in open space: chaparral habitats and sandy washes in rugged, inaccessible, or steep terrain unsuitable for development.
Sandstone night lizard *Xantusia henshawi gracilis*	CSC	Inhabits a variety of desert, chaparral, scrub, and woodland habitats. Requires granite or sandstone rock outcrops where it occurs in crevices. Often found in cooler areas such as in rock outcrops on north facing slopes.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub and woodland habitats. Retain in open space: rock outcrops in steep, inaccessible, or rugged terrain unsuitable for development.
Coronado skink *Eumeces skiltonianus interparietalis*	CSC, C2	Variety of habitats: grasslands, open chaparral, woodlands, and coastal sage scrub. Prefers open areas within habitats and is often associated with rocky or moist microhabitats. Requires leaf litter, rocks, or logs for cover.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve grassland, coastal sage scrub, southern live oak riparian forest, and coast live oak woodland habitats. Retain in open space: chaparral habitats in rugged, inaccessible, or steep terrain unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Reptiles and Amphibians						
Western spadefoot toad *Scaphiopus hammondii*	CSC	Often found in sandy or gravelly, semi-arid areas associated with washes, rivers, alkaline flats, floodplains, and mesas. Require ephemeral or slow moving pools (e.g., vernal pools or freshwater marsh) for reproduction. Burrows in ground for much of the year, often in upland habitats.	Require redesign to avoid or reduce impacts to occupied habitat. Must retain connectivity between ephemeral water sources and uplands (e.g., vernal pools and associated grasslands or coastal sage scrub used for burrowing). Avoid building roads between breeding habitat and upland areas. Management plan developed at Specific Plan Level should include provisions for managing introduced predators (e.g., bullfrogs), prohibiting off-road vehicle activity in occupied habitat, and restrictions on pesticide spraying near occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts. Prepare and implement a management plan for this species.	80% or MSCP	Preserve vernal pools, associated watersheds, and immediately adjacent grassland and coastal sage scrub habitats. Key resource areas are identified and recommended for preservation in the Draft Environmental Impact Report. These areas include vernal pool habitats contiguous with adjacent upland habitats.
Arroyo southwestern toad *Bufo microscaphus californicus*	CSC, C2	Drainages, washes, riverbanks, and streams with alluvial fans, or sandy banks. In more arid areas associated with loose gravelly streambeds. Often associated with riparian fringes (especially willows, cottonwoods, and sycamores). Requires permanent or semi-permanent water source for breeding.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80% or MSCP	Preserve wetland, riparian, and coastal sage scrub habitats. Retain in open space; rugged, remote, and steep drainages unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Loggerhead shrike *Lanius ludovicianus*	C2	Grassland, agricultural, and other open habitats with scattered bushes or low trees for nesting and perching	Mitigation for grassland areas used by raptors would mitigate for this species		80%	Preserve grassland habitats. Other habitats contiguous with preserved grassland such as woodland and scrub edges would provide nesting habitat for this species.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Coast patch-nosed snake *Salvadora hexalepis virgultea*	CSC, C2	Grassland, chaparral, coastal sage scrub, and agricultural habitats. Associated with sandy or rocky areas.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub and grassland habitats Retain in open space; chaparral habitats in rocky, rugged, inaccessible, or steep terrain unsuitable for development.
San Diego mountain kingsnake *Lampropeltis zonata pulchra*	CSC, C2	Coniferous woodland and chaparral habitats at high elevations (e.g. Palomar, Laguna, and Cuyamaca Mountains). Require boulders for communal dens.	Require redesign to avoid impacts to occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid impacts to occupied habitat. Prepare and implement a mitigation plan for indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100%	Preserve Tecate Cypress habitat. Retain in open space; chaparral habitats in rocky, rugged, inaccessible, or steep terrain unsuitable for development.
Two-striped garter snake *Thamnophis hammondii*	C2	Aquatic and riparian habitats: streams, rivers, brackish coastal marshes, ponds, and lakes. Prefers rocky streams with protected pools.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve riparian, wetland, and aquatic habitats.
Northern red diamond rattlesnake *Crotalus ruber ruber*	CSC, C2	Coastal sage scrub, chaparral, and open woodland habitats. Often found near rocks or dense vegetation which provide cover.	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to the greatest extent feasible to avoid or reduce impacts, prepare and implement a mitigation plan for unavoidable impacts.	80%	Preserve coastal sage scrub habitats. Retain in open space; chaparral habitats, canyons, washes, and rocky hillsides in rugged, inaccessible, or steep terrain unsuitable for development.

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Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Birds						
Osprey *Pandion haliaetus*	CSC	Occurs along coast and at inland lakes. Few individuals observed in winter at Otay Lakes.	No mitigation; impacts not significant due to low densities of this species onsite.			
Northern harrier *Circus cyaneus*	CSC	Grasslands, marshes, agricultural fields, and coastal sage scrub.	Not mitigable under most plans. Redesign to preserve key raptor nesting and foraging habitats. Enhance foraging and nesting habitats to mitigate for unavoidable and indirect impacts.	Develop and implement a management plan for this species.	100% of Breeding Population and 80% of Non-Breeding Population or MSCP	Preserve wetland, grassland, and coastal sage scrub habitats. Otay Ranch Raptor Management Study recommends key raptor resource areas which should be preserved.
Sharp-shinned hawk *Accipiter striatus*	CSC	Winters in woodlands and open habitats which support some trees.	No mitigation; impacts not significant due to low densities of this species onsite.			
Cooper's hawk *Accipiter cooperii*	CSC	Resident in oak woodland and riparian habitats. Also forage in coastal sage scrub, chaparral, and edge areas.	Not mitigable under most plans. Redesign to preserve key raptor nesting and foraging habitats. Enhance foraging and nesting habitats to mitigate for unavoidable and indirect impacts.	Develop and implement a management plan for this species.	80% or MSCP	Preserve southern live oak riparian forest, coast live oak woodland, riparian, and coastal sage scrub habitats. Retain in open space: chaparral habitats in remote and unaccessible areas unsuitable for development. Otay Ranch Raptor Management Study recommends key raptor resource areas which should be preserved.
Ferruginous hawk *Buteo regalis*	CSC, C2	Winters in large blocks of open grasslands and agricultural habitats.	No mitigation; impacts not significant due to low densities of this species onsite.			
Golden eagle *Aquila chrysaetos*	CSC	Nests on cliffs and in large rock outcrops on rugged, steep slopes. Also nests in large oaks or sycamores. Forages in grasslands, open coastal sage scrub, and agriculture fields.	Not mitigable under most plans. Redesign to preserve key raptor nesting and foraging habitats. Enhance foraging and nesting habitats to mitigate for unavoidable and indirect impacts.	Develop and implement a management plan for this species.	100% of Breeding Habitat and Associated Key Foraging Habitat or MSCP	Preserve grassland and coastal sage scrub habitats. Retain in open space: rocky outcrops and cliffs in rugged, inaccessible, and steep terrain unsuitable for development. Otay Ranch Raptor Management Study recommends key raptor resource areas which should be preserved.
Merlin *Falco columbarius*	CSC	Winters in grassland and agricultural habitats.	No mitigation; impacts not significant due to low densities of this species onsite.			
Prairie falcon *Falco mexicanus*	CSC	Winters in grassland, agricultural, and open coastal scrub habitat.	No mitigation; impacts not significant due to low densities of this species onsite.			

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Mountain plover *Charadrius montanus*	CSC, C2	Localized winter visitor in bare, plowed, agricultural fields.	No mitigation; impacts not significant due to low densities of this species onsite.			
Long-billed curlew *Numenius americanus*	CSC, C2	Tidal mudflats and salt marshes are preferred habitat. Also use agricultural fields.	No mitigation; impacts not significant due to low densities of this species onsite.			
Burrowing owl *Speotyto cunicularia*	CSC	Open grassland, agricultural, coastal dune, and extremely open coastal sage scrub habitats	Redesign to preserve occupied habitat. Preserve potential habitat through mitigation for other sensitive raptors	Develop and implement a management plan for this species.	100% or MSCP	Preserve grassland habitat. Otay Ranch Raptor Management Study recommends key raptor resource areas which should be preserved.
Long-eared owl *Asio otus*	CSC	Primarily riparian woodland, oak woodlands coniferous forest, and chaparral habitats.	Redesign to preserve occupied habitat. Preserve potential habitat through mitigation for other sensitive raptors.	Develop and implement a management plan for this species.	100%	Preserve riparian, southern live oak riparian forest, coast live oak woodland, and Tecate cypress habitats. Otay Ranch Raptor Management Study recommends key raptor resource areas which should be preserved.
Short-eared owl *Asio flammeus*	CSC	Winter visitor to salt marshes, open grassland, and agricultural habitats.	No mitigation; impacts not significant due to lack of individuals observed onsite.			
Southwestern willow flycatcher *Empidonax traillii extimus*	SE, C1	Willow thickets in riparian woodland.	Require redesign to avoid impacts to occupied habitat. Enhance or restore riparian habitats to mitigate for indirect impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid impacts, prepare and implement a mitigation plan for indirect impacts. Where feasible implement mitigation in conjunction with mitigation for other species. Develop and implement a management plan for this species if it occurs onsite.	100% or HCP/ MSCP	Preserve riparian habitats.
California horned lark *Eremophila alpestris actia*	C2	Ocean shores, bare ground, disturbed areas with low herbaceous plants, grasslands, and open agricultural habitats.	Mitigation for grassland areas used by raptors would mitigate for this species.		80%	Preserve grassland habitats.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Yellow warbler *Dendroica petechia*	CSC	Restricted to breeding in riparian woodland, migrates through other woodlands.	Require redesign to avoid impacts where feasible. Enhance or restore riparian habitats to mitigate for indirect or unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid or reduce impacts, prepare and implement a mitigation plan for direct and indirect impacts.	80%	Preserve riparian habitats.
Yellow-breasted chat *Icteria virens*	CSC	Restricted to breeding in riparian woodland, migrates through other woodlands.	Require redesign to avoid impacts where feasible. Enhance or restore riparian habitats to mitigate for indirect or unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid or reduce impacts, prepare and implement a mitigation plan for direct and indirect impacts	80%	Preserve riparian habitats.
Southern California rufous-crowned sparrow *Aimophila ruficeps*	C2	Coastal sage scrub and lower elevation chaparral habitats. Prefer steep, often exposed slopes, with rock outcrops, and sparse shrub cover.	Mitigation for California gnatcatcher would mitigate for this species (preservation of key coastal scrub areas listed in gnatcatcher mitigation).		80% or MSCP	Preserve coastal sage scrub habitats. Retain in open space; steep, rocky slopes, and chaparral habitats in rugged and inaccessible areas unsuitable for development.
Bell's Sage sparrow *Amphispiza belli belli*	C2	Occurs on coastal slopes in large tracts (> 1000 acres) of undisturbed coastal sage scrub and chaparral habitats.	Mitigation for California gnatcatcher would mitigate for this species (preservation of key coastal scrub areas listed in gnatcatcher mitigation).		80%	Preserve coastal sage scrub habitats. Retain in open space; steep, rocky slopes, and chaparral habitats in rugged and inaccessible areas unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Mammals						
California leaf-nosed bat *Macrotus californicus*	CSC, C2	Primarily occurs in desert habitats. Forages over flats and washes. Roosts in rugged terrain in mines and caves. (Two historic sightings (pre-1940's) in San Ysidro Mountains and active roost at Barrett Junction in 1970's.) Probably disappeared from coastal areas.	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100% of Roosting Habitat	Preserve coastal sage scrub, riparian, and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.
Townsend's big-eared bat *Plecotus townsendii*	CSC, C2	Variety of habitats: desert habitats, woodlands, grasslands, and scrub. Prefers mesic micro-habitats. Roosts in caves, lava tubes, mines, buildings, and other man-made structures. (Declined since 1930's. Historically, roosted on Otay Mountain, records of sightings at Dulzura. In 1970's active roosts at Barrett Junction but, no sightings from Otay Ranch.)	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100% of Roosting Habitat	Preserve coastal sage scrub, riparian, woodland, and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.
Pallid bat *Antrotous pallidus pacificus*	CSC	Occurs in wide variety of lowland habitats: grasslands, shrublands, woodlands, and mixed conifer forests. Prefers dry areas with rocky areas for roosting. Roosts in crevices, caves, mines, buildings, and under bridges. (Historic roost in Otay River Parcel, and multiple occurrences in Dulzura. Occurrence in 1970's north of Otay Ranch between National City and Chula Vista, other sightings far to north and east of Otay Ranch.)	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100% of Roosting Habitat	Preserve coastal sage scrub, riparian, woodland, and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.
California mastiff bat *Eumops perotis californicus*	CSC, C2	Occurs in open arid areas with rocky cliffs. Often associated with chaparral and live oaks. Roosts in rock crevices and occasionally in buildings. Forages a great distance from roosts in a variety of habitats. (Historical roost on Otay Ranch southeast of the Lower Otay Lakes Dam. Multiple historic records from Dulzura and Barrett Junction. No records of colonies since 1940's.)	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100% of Roosting Habitat	Preserve coastal sage scrub, riparian, oak woodland and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
San Diego black-tailed jackrabbit *Lepus californicus bennetti*	C2	Occurs in open or semi-open habitats: coastal sage scrub, chaparral, grassland and agriculture edges, and mountain meadows.	Mitigation for California gnatcatcher would mitigate for this species (preservation of key coastal scrub areas listed in gnatcatcher mitigation).		80%	Preserve coastal sage scrub and grassland habitats.
Pacific little pocket mouse *Perognathus longimembris pacificus*	CSC, C2	Inhabits narrow coastal plains from Tia Juana Estuary north to Los Angeles County. Requires fine, alluvial soils	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts.	100% or MSCP	Preserve sandy wash habitats in Otay River Valley through preservation of riparian habitat (Otay River Valley Key Resource Area).
Northwestern San Diego pocket mouse *Chaetodipus fallax*	C2	Occurs in open, arid habitats often associated with yucca. Found in coastal sage scrub, chaparral, annual grasslands, and desert habitats. (Records from Dulzura, Jacumba, Tia Juana River Valley, and other areas to north.)	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts.	80%	Preserve coastal sage scrub and grassland habitats Retain in open space; rugged,and remote chaparral habitat unsuitable for development.
Dulzura California pocket mouse *Chaetodipus californicus femoralis*	C2	Found in variety of habitats: chaparral, coastal sage scrub, annual grassland, and woodlands. Prefers interface of chaparral and grassland habitats. (Records from Dulzura, Deheza, Campo, and areas to north.)	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts.	80%	Preserve coastal sage scrub, woodland, and grassland habitats. Retain in open space; rugged, remote chaparral habitats unsuitable for development.
Southern grasshopper mouse *Onychomys torridus ramona*	C2	This subspecies occurs primarily in coastal sage scrub and chaparral habitats on western pacific slopes. Has large home range. (Records from Dulzura, Tia Juana River Valley, San Diego, Jacumba, and areas to the north.)	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts.	80%	Preserve coastal sage scrub. Retain in open space; rugged, remote drainages, and chaparral habitats unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
San Diego desert woodrat *Neotoma lepida intermedia*	C2	Occurs primarily in coastal sage scrub, maritime succulent scrub, and chaparral habitats. Associated with cholla, prickly pear, and other cacti and rock outcrops. (Records from Proctor Valley, Otay River parcel, Tia Juana River Valley, Jacumba, Jamul, Dulzura, and areas to the north.)	Require redesign to avoid or reduce impacts to occupied habitat. Where feasible, implement mitigation in conjunction with mitigation for other species. Enhance or restore habitat to mitigate unavoidable impacts. Enhancement or restoration shall occur prior to impacting occupied habitat.	Survey appropriate habitat, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts.	80%	Preserve coastal sage scrub and maritime succulent scrub habitats. Retain in open space: drainages, outcrops, steep, rocky slopes, and chaparral habitats unsuitable for development.
American badger *Taxidea taxus*	CSC	Occurs primarily in open, level habitats such as grassland, agricultural areas and open coastal sage scrub. Requires friable soils for burrowing.	Impacts not considered significant due to detection of only one burrow onsite. Territories are large so that a low density would be expected onsite.			
Species With a Very Low Probability for Occurring Onsite Except as Vagrants.						
Least bittern *Ixobrychus exilis*	CSC	Restricted to large brackish and freshwater marshes in coastal lowland.	No mitigation; impacts not significant due to lack of suitable habitat onsite.			
Bald eagle *Haliaeetus leucocephalus*	SE, FE	Winter at inland lakes in county.	No mitigation; impacts not significant due to lack of individuals onsite.			
Peregrine falcon *Falco peregrinus*	SE, FE	Occurs only rarely at inland lakes during the winter. In San Diego County primarily found along the coast.	No mitigation; impacts not significant due to lack of individuals onsite.			
Mexican long-tongued bat *Choeronycteris mexicana*	CSC, C2	Occurs in desert habitats, primarily deep, rugged, and moist canyons. Roosts in caves, buildings, and mines. Feeds on pollen and nectar from succulents (e.g. Agave). Fall vagrant from the south. (Historic invasion in 1940's account for most of San Diego records, most occurred in urban San Diego, none on Otay, closest was National City.)	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Search for this bat during surveys for other bats more likely to occur onsite. If this species is found onsite, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100% of Roosting Habitat	Unlikely to occur onsite as rare in county. Preserve coastal sage scrub, riparian, and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.

Table 6. Sensitive Wildlife Habitat Affinities, Required Measures to Reduce Impacts, Minimum Preservation Standards, and Recommended Preservation of Umbrella Habitats

Species	Sensitivity Status*	Habitat Affinities	Measures Required in the Program Level EIR to Reduce Impacts Below Significance	Measures Required at the Specific Plan Level to Reduce Impacts	Minimum Preservation Standards**	Preservation of Sensitive Umbrella Habitats and Retention in Open Space of Other Habitats Unsuitable for Development***
Spotted bat *Euderma maculatum*	CSC, C2	Often occurs in arid desert or open pine forests in rocky terrain. Roosts in caves and crevices in cliffs. Forages over water and washes. Very rare and little is known about this bat. (Vagrant in San Diego County. There is only a single historic record for this species in San Diego County in the La Mesa area.)	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Search for this bat during surveys for other bats more likely to occur onsite. If this species is found onsite, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite.	100% of Roosting Habitat	Unlikely to occur onsite as very rare in county. Preserve coastal sage scrub, riparian, and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.
Pocketed free-tailed bat *Nyctinomops femorosacca*	CSC	Rare in desert habitats in California (at northern edge of range). Roosts in rock crevices in cliffs. (No records from coastal San Diego, records from Palm Canyon, Borrego Valley, and Suncrest.)	Not appropriate as does not reported from project area, occurs in desert.			
Big free-tailed bat *Nyctinomops macrotis*	CSC	Widely scattered distribution (post-breeding wanderer), vagrant in San Diego County. Inhabits rugged, wooded mountainous areas and could breed in southern California. Roosts in crevices high in cliffs or in rock outcrops. (Three specimens from urban San Diego, no records from Otay Ranch area.)	Redesign to avoid impacts to bat roosts or important foraging areas, incorporate potential and active roosts and foraging areas in Management Preserve, design bridges and overpasses to promote potential use as roost sites, limit human disturbance at roosts.	Search for this bat during surveys for other bats more likely to occur onsite. If this species is found onsite, assess direct and indirect impacts, redesign to avoid direct impacts, prepare and implement a mitigation plan for unavoidable indirect impacts. Develop and implement a management plan for this species if it occurs onsite	100% of Roosting Habitat	Unlikely to occur onsite except as a vagrant. Preserve coastal sage scrub, riparian, woodland, and grassland habitats. Retain in open space; rugged, steep, rocky slopes, cliffs, and inaccessible chaparral habitats unsuitable for development.

* Sensitivity Status Codes:

C1 = Category 1 federal listing
C2 = Category 2 federal listing
CSC = California Department of Fish and Game Species of Special Concern
FE = Federally listed as an endangered species
PFE = Taxa proposed for listing as threatened or endangered by United States Fish and Wildlife Service
PSE = Taxa proposed for listing as threatened or endangered by California Department of Fish and Game
PPE = Petition for listing as endangered or threatened species is in preparation or has been submitted to United States Fish and Wildlife Service
SE = California Department of Fish and Game listed endangered species
ST = California Department of Fish and Game listed threatened species

** For First Priority Species, standards apply to the preservation of occupied habitat and individuals.
First Priority Species are federal and/or state-listed threatened or endangered species. This category also includes those species petitioned for federal and/or state-listed threatened or endangered status.
For Second Priority Species, standards apply to the preservation of occupied habitat (e.g. roost sites for bats, vernal pools and associated watersheds for vernal pool species, nest sites and key foraging habitats for raptors).
Second Priority Species are those which are federal candidates or California Department of Game Species of Special Concern.

*** Other habitat areas retained in open space are assumed unsuitable for development because of topography, slope, and other factors. Chaparral habitats make up almost 12 percent of the total habitat acreage (~23,086 acres) occurring on Otay Ranch. Under the New Town Plan which impacts more habitat than the other alternatives, approximately 32 percent of chaparral habitats are impacted. The remaining 68 percent of chaparral habitats are retained in open space and provide wildlife habitat.

Significant Effect: Regional raptor-foraging areas would be impacted. [FPEIR, Volume 2, p. 3.3-48 through 3.3-51]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will substantially lessen the significant environmental effects as identified in the Final Program EIR. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures at this level of planning to mitigate impacts below a level of significance for impacts to non-native grasslands which are raptor-foraging areas. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required either as a condition of approval or are made binding on the Applicant through these Findings. [FPEIR, Volume 2, Table 3.3-7, mitigation measures 32 through 36]

- Key raptor resource areas in proposed open space shall be preserved in accordance with the Otay Ranch Raptor Management Study (Ogden 1992a).

- The restoration/enhancement of nesting and foraging habitat shall be required. Standards for preservation are defined in Table 3.3-7 of the FPEIR and are as follows:

Table 3.3-7 (Continued)

SUMMARY OF IMPACTS AND REQUIRED MEASURES TO REDUCE IMPACTS FOR SENSITIVE WILDLIFE SPECIES UNDER THE ENVIRONMENTAL ALTERNATIVE

Species Name	Otay River Parcel		Proctor Valley Parcel		San Ysidro Parcel				
	Detected Impact[1]	Potential Impact[2]	Detected Impact[1]	Potential Impact[1]	Detected Impact[1]	Potential Impact[2]	Signif-icance[3]	Standards[4]	Required Measures to Reduce Impacts to a Level Below Significance
Ferruginous hawk	—	M	—	M	—	M	PS	80%	See measure 29.
Coastal rosy boa	—	H	1/1	H	—	H	PS	80%	See measure 29.
San Diego ringneck snake	—	H	—	H	—	H	PS	80%	See measure 29.
Coast patch nosed snake	—	H	—	L	—	H	PS	80%	See measure 29.
San Diego mountain kingsnake	—	L	—	L	—	M	PS	100%	See measure 29
Two striped garter snake	—	H	2/2	H	0/1	H	PS	80%	See measure 29. Additional mitigation measures include: Maintain and enhance where appropriate the existing water quality and quantity within the preserved habitat of this species.
Northern red diamond rattlesnake	—	H	—	H	—	H	PS	80%	See measure 29.
Birds:									
Osprey	1/1	N	—	N	—	N	NS		
Northern harrier	31/41	H	16/20	H	10/11	H	S	100% of Breeding Population and 80% of Nonbreeding Population or MSCP	32. Loss of regional raptor foraging and nesting habitat under the proposed plan is not mitigable as: a. Reduction of habitat for sensitive resident raptors cannot be mitigated onsite under current plan. b. Regional impacts on all raptor species cannot be mitigated due to the magnitude of habitat loss. c. Regional ecological impacts on [illegible] raptor species from reduction of raptor predators is not mitigable. d. Offsite mitigation for loss of raptor habitat is not feasible given the regional importance of Otay Ranch raptor habitat. 33. Refuges are required to preserve a majority of the key raptor nesting and foraging areas presented in the Otay Ranch Raptor Management Study. The following areas are identified as key raptor habitat (see Figure 10 in the raptor study): a. Otay River Valley (including the slopes). b. Otay Mesa and Johnson Canyon c. Salt Creek Canyon d. Wolf Canyon e. Poggi Canyon and Telegraph Avenue f. North end of Proctor Valley g. Central Proctor Valley and the adjacent slopes to the east h. Lower southwest slopes of Jamul Mountains i. Disjunct parcel west of the lower end of Upper Otay Lake j. Canyon southeast of Buschalaugh Cove and the area east of Lower Otay Lake Dam k. Western San Ysidro parcel below south shore of Lower Otay Lake and Dulzura Creek l. Little Cedar Canyon m. Hubbard Springs (southern live oak riparian forest and sycamore alluvial woodland) n. Cedar Canyon

Table 4.4.7 (Continued)

SUMMARY OF IMPACTS AND REQUIRED MEASURES TO REDUCE IMPACTS FOR SENSITIVE WILDLIFE SPECIES UNDER THE ENVIRONMENTAL ALTERNATIVE

Species Name	Otay River Parcel		Proctor Valley Parcel		San Ysidro Parcel				Required Measures to Reduce Impacts to a Level Below Significance
	Detected Impact[1]	Potential Impact[2]	Detected Impact[1]	Potential Impact[1]	Detected Impact[1]	Potential Impact[2]	Significance[3]	Standards[4]	
									34. Depending on which and how much of the key raptor areas are preserved, the enhancement of additional areas for foraging and nesting habitat could be required at the SPA Level to reduce impacts to below significance. Areas recommended for restoration are identified in the Otay Ranch Raptor Management Study and include: a. Native grassland restoration for foraging. Potential restoration sites include: • NRO on Otay Mesa south and west of vernal pools. • Portions of suitable AG lands on mesa north of Otay River Valley. The lower southwest slopes of the Jamul Mountains adjacent to vernal pool _ b. Cliff Nest Enhancement Sites include: • East of Lower Otay Dam • Southeast corner of the Proctor Valley parcel c. Tree Nest Enhancement Areas include: • Appropriate ravines and canyons throughout the three parcels (enhance with sycamore, oak, willow, and cottonwood tree species). 35. Prepare and implement a long term raptor management plan for raptors on Otay Ranch. This plan should be based on the recommendations of the Otay Ranch Raptor Management Study. It should also include as appropriate any other management techniques which become available and are applicable for the raptor population on Otay Ranch. The management plan should include provisions for periodic long term monitoring of onsite raptor populations to determine their status and the appropriateness of management techniques. The goal of the management program shall be to maintain and where feasible enhance preserved raptor populations.
Black shouldered kite	13/13	H	1/1	H	-	M	PS	60%	See measures 32-35
Sharp shinned hawk	1/1	H	1/2	H	0/1	H	NS		
Cooper's hawk	1/1	H	2/2	H	1/6	H	S	80% or MSCP	See measures 32, 33a, 33b, 33c, and 35
Red shouldered hawk	3/3	H	2/3	M	-	M	NS		
Ferruginous hawk	3/4	H	2/3	H	-	M	NS		
Golden eagle	8/10	H	16/23	H	1/5	H	S	100% of Breeding Habitat and Associated Key Foraging Habitat or MSCP	See measures 32-35
Prairie falcon	4/4	H	5/5	H	-	H	NS		
Merlin	1/1	H	1/1	H	-	H	NS		
Mountain plover	—	H	—	M		M	NS		

Table 3.3-7 (Continued)

SUMMARY OF IMPACTS AND REQUIRED MEASURES TO REDUCE IMPACTS FOR SENSITIVE WILDLIFE SPECIES UNDER THE ENVIRONMENTAL ALTERNATIVE

Species Name	Otay River Parcel		Proctor Valley Parcel		San Ysidro Parcel		Signif-icance[3]	Standards[4]	Required Measures to Reduce Impacts to a Level Below Significance
	Detected Impact[1]	Potential Impact[2]	Detected Impact[1]	Potential Impact[1]	Detected Impact[1]	Potential Impact[2]			
Long billed curlew	--	L	--	H	--	H	NS		
Burrowing owl	2/3	H	1/1	H	--	M	S	100% or MSCP	36 See measures 32 and 35 a At the SPA Level, conduct focused surveys for this species in appropriate habitat. b Assess direct and indirect impacts from proposed development and roads. c Prepare and implement a mitigation plan for significant impacts. The following measures shall be incorporated into the mitigation plan: - Redesign to avoid impacts to occupied habitat and where feasible, avoid or reduce impacts to potential habitat. - Preserve in natural open space all occupied habitat, and where feasible include potential habitat. - Include a minimum of 75 percent of preserved habitat for this species within the Management Preserve. - Provide a 300 foot buffer around occupied or potential burrowing owl colonies. - Where feasible implement mitigation in conjunction with mitigation for other species (e.g. see measures 33 a b, 33c h, and 34a)
Long eared owl	--	N	--	N	--	H	PS	100%	See measures 32, 35 a, 35i a, 35h, and 35
Short eared owl	--	H	--	M	--	L	NS		
California horned lark	--	H	--	H	--	H	PS	80%	37 Preservation and restoration of grassland habitats as outlined in measures 33a b, 33c h, and 34a would mitigate significant impacts to this species
Loggerhead shrike	11/15	H	2/3	H	--	L	PS	80%	See measure 37
Yellow warbler	1/1	H	--	H	--	H	PS	80%	See measures 1b d, 2, 3, 4, 5, and 6
Yellow breasted chat	8/8	H	--	H	--	H	PS	80%	See measures 1b d, 2, 3, 4, 5, and 6
Blue grosbeak	16/21	H	6/7	H	0/1	L	PS	60%	Implementation of measures 1-5 for the least Bell's vireo would mitigate significant impacts for this species
Southern California rufous-crowned sparrow	--	H	3/4	H	2/6	H	PS	80% or MSP	38 Implementation of measures 24-26 for the California gnatcatcher would mitigate for this species
Bell's sage sparrow	8/12	H	4/6	H	6/6	H	PS	80%	See measure 38
Grasshopper sparrow	9/9	H	14/15	H	--	L	PS	60% or MSCP	See measure 37

Significant Effect: Regional and local wildlife corridors would be impacted. [FPEIR, Volume 2, p. 4.9.4-8 through 4.9.4-9]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid significant environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.4-22 through 4.9.4-24]

- The project is designed to maintain connectivity of the parcels and adjacent blocks of offsite open space.

- Specific mitigation for all corridors shall follow detailed recommendations from the Otay Ranch Wildlife Corridor Study (Ogden 1992b). The following general recommendations apply to all regional and important local wildlife corridors.

  - Preserved wildlife corridors shall be retained as natural open space, contain native vegetation, and be used for only passive recreation.

  - All road underpasses and bridges crossing wildlife corridors shall have natural vegetation underneath and be sufficiently wide to encourage wildlife use.

  - Wildlife corridors through development shall be sufficiently wide to encompass the natural rim to rim topography and allow undisturbed wildlife movement.

  - Incompatible land uses (e.g. high density residential development and roads) shall not be sited adjacent to wildlife corridors, not including the buffer (development within the buffer shall not be allowed).

- The following measures shall be implemented for the Otay River parcel:

  - Impacts from road construction to the four regional corridors in the Otay River parcel shall be mitigated by road design and realignment following the Wildlife Corridor Study recommendations.

  - <u>Poggi to Wolf Canyon</u> - The potential California gnatcatcher and cactus wren corridor between Poggi and Wolf Canyons shall be restored to native coastal sage scrub vegetation. A natural open space easement through the northeastern corner of the landfill shall be secured. This easement would

need to encompass the offsite portion of the corridor and any buffer zones recommended in the corridor study. The Paseo Ranchero Road crossing of this corridor shall be designed according to the Wildlife Corridor Study recommendations.

- Wolf Canyon to Salt Creek - Otay Valley Road shall be fitted with a 12 foot drainage culvert at Wolf Canyon to allow bobcats to pass underneath. The Rock Mountain Road crossing of the Wolf Canyon to Salt Creek gnatcatcher and wren corridor near the northwest end of the quarry shall follow recommendations of the corridor study. Heritage Road, La Media Road, SR-125, and Alta Road (if constructed) crossings of this corridor along the north slope of the Otay River Valley shall follow the recommendations of the Wildlife Corridor Study.

- Otay Valley - Heritage Road, La Media Road, SR-125, and Alta Road (if constructed) shall be elevated at Otay River Valley crossings of the Otay River Valley in accordance with the Wildlife Corridor Study recommendations. Major ravines and drainages shall also be bridged to allow for movement of wildlife along the Otay River Valley.

- O'Neal Canyon - The Alta Road alignment crossing of Salt Creek (if constructed) shall be bridged to retain a corridor to the Otay River Valley. This alignment shall be shifted west out of O'Neal Canyon and west of the mouth of Salt Creek. If the existing Alta Road crossing of O'Neal Canyon is widened, it shall be fitted with a large underpass and bridges over major ravines to allow movement into the Otay River Valley.

- The following measures shall be implemented in the Proctor Valley parcel:

  - Corridor R1 - (see Figure 3.3.-7 in the FPEIR) - In the disjunct L-shaped parcel, low density development shall be pulled west out of the ravine and well back on the ridge so that animals may access the ravine, which leads them northwest over the saddle and into the Sweetwater Reservoir. The corridor shall be 1600 feet wide at the mouth of this ravine, with at least 500 feet of open space along the southwest side of the mouth of this ravine.

  - In Proctor Valley, the corridor shall widen from 1300 feet at the northwest end to 2200 feet at the southeast end. Development east of Proctor Valley Road shall be pulled back on the south side of the corridor. The K through 6 elementary school may be within the buffer if the playing fields are adjacent to the corridor, there is no lighting or activity at night, and appropriate fencing is maintained. Low density development west of Proctor Valley Road shall be moved north out of the corridor.

Revegetation and screening from development shall be required in the Proctor Valley portion of the corridor. The Proctor Valley Road crossing shall be bridged (See Wildlife Corridor Study).

- The corridor follows the deep canyon east of Proctor Valley and shall include rim to rim topography. It is approximately 1600 feet wide. Low density development extending into the canyon on the north side of the corridor shall be pulled back onto the ridgetops. Where delineation of rim to rim topography is not obvious, there shall be 800 feet of width in open space extending up each side of the ravine.

- Local Corridor 4 - To eliminate impacts by Proctor Valley Road to local Corridor 4, Proctor Valley Road shall be elevated across ravines along its alignment to allow for wildlife movement underneath and into the alternate corridor in the creekbed to the north of Proctor Valley Road.

- Corridor R2 - Low density and LMV development along the western site of this corridor shall be pulled back to retain rim to rim topography in open space. The corridor is approximately 1600 feet wide throughout the canyon. Low density development on a knoll on the east side of the corridor shall be eliminated as it encroaches into the corridor. At the south end of Corridor R2 near Otay Lakes Road, LMV and MH development shall be pulled back to the east and west respectively, to maintain a minimum width of 1600 feet. At the Otay Lakes Road crossing the corridor may narrow as recommended in the Wildlife Corridor Study. The proposed park at the south end of the corridor shall be designed at the SPA level so as not to impact the corridor. It shall be sited within the buffer zone (moved east or west) and not relocated within the ravine. The two Otay Lake Road crossings of this corridor shall be bridged as recommended in the Otay Ranch Wildlife Corridor Study.

- The following measures shall be implemented in the San Ysidro parcel:

  - Local Corridor 8 - At the north end of Corridor 8 in the San Ysidro parcel, development shall be eliminated from the canyon southeast of the San Diego Air Sports Center to retain this major local wildlife corridor.

  - Corridor 11 - Development along the western portion of Little Cedar Canyon shall be pulled back to avoid constraining wildlife movement in Corridor 11. Expansion of Otay Lakes Road shall require a bridge at the Corridor 11 road crossing. Such bridge shall meet the design recommendations of the Wildlife Corridor Study.

- Corridor 10 - Very low density development along the northern edge of Cedar Canyon in Corridor 10 shall be restricted to the ridgetop.

- Regional Corridor 5 - At the SPA level there shall be no new road alignments or development in natural open space and Special Resource Study Areas within Corridor 5.

- Regional Corridor 6 - At the north end of Regional Corridor 6, the entire rim-to-rim topography shall be included in the corridor and it shall be no narrower than 800 feet.

- Local Corridor 9 shall include rim-to-rim topography through development areas. Development shall be screened from the view of animals within these corridors.

- Within the San Ysidro panel, development shall be pulled back from Dulzura Creek at the Otay lakes Road Crossing and away from the east end of Lower Otay lakes to allow wildlife movement along Dulzura Creek to Otay lake via Corridor 5.

D. CULTURAL RESOURCES

Significant Effect: Disturbance of significant prehistoric and historic resources. [FPEIR, Volume 2, p. 4.9.5-8 through 4.9.5-9]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project, which will substantially lessen the significant environmental effect as identified in the Final Program EIR. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures at this level of planning to mitigate impacts below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.5-9 through 4.9.5-10]

Prehistoric Resources - A programmatic mitigation plan for prehistoric resources shall be prepared. The following plan is a synopsis of a more detailed program presented in the Resource Management Plan (RMP).

- Stage 1 - In conjunction with the first SPA application within each parcel (Otay Valley, Proctor Valley and San Ysidro) a comprehensive cultural resources study to assess cultural resources throughout that parcel shall be performed. This report shall be a means of gaining comparative information to develop a specific program for mitigation and resource management. This would include a report to be prepared by a qualified consultant to be reviewed and approved by the county, on both the survey and testing programs.

- Stage 2 requires site importance and boundary testing for each resource identified within the first SPA Plan based on a research design approved by the appropriate jurisdiction, and for a sample of site types within the overall Project. Site testing is required to adequately assess the sites for their importance under CEQA and local guidelines. A sample of site types beyond the SPA Plan area shall be tested as a means of gaining comparative information and to develop a specific program for mitigation and resource management. This requires a report to be prepared by a qualified consultant and to be reviewed and approved by the appropriate jurisdiction on both the survey and testing programs.

- Stage 3 Following completion of site importance evaluation, those sites that are found to be non-unique, non-significant, and without demonstrated importance will require no further analysis or assessment. As mandated by CEQA, mitigation will have been achieved by recordation, testing, and submittal of the testing report. For those sites that are determined to be important resources, alternate means of achieving mitigation can be pursued. In general, these forms of mitigation include:

  - Site Avoidance. For prehistoric resources, sites with human burials, areas that contain rock art (petroglyphs and pictographs), rock shrines, and other rock or stone architectural features shall be preserved and protected. Any impact to these resources shall be avoided. Additionally, sites that may contain particular religious or sacred importance to Native American people will require avoidance and protection measures to ensure that the sites are not destroyed or degraded. For historic resources, intact standing structures and buildings that are found to be significant as determined by the appropriate jurisdiction shall be preserved in place, and to the extent feasible, subjected to minor alterations in the immediate setting and character. In some cases (as determined by the appropriate jurisdiction) architectural features such as walls, flumes, or other permanent elements of the built and altered environment may require in place preservation and protection.

    For resources requiring avoidance it must be clearly demonstrated that a site will, in fact, be avoided by all Project activities such that no possible adverse impacts, direct or indirect, could occur. The determination as to

adequacy is made by the lead agency as part of the environmental review performed on each SPA plan. Specific avoidance measures may include either the location of sites in currently proposed open space areas, or in particular instances, even more specific Project design to avoid the resource by maintaining it in a dedicated open space.

- Site Avoidance/Preservation. Design measures can include capping of sites with sterile fill soil and/or placing restrictions on access and usage of individual parcels as well as public parks and public open spaces. A preservation plan must be prepared for those sites that are determined to be significant as defined in Appendix K of the CEQA Guidelines.

- Data Recovery. For those sites that are found to be important resources and for which avoidance and preservation are not feasible or appropriate, a data recovery plan shall be prepared. The plan, while it may be part of a much larger program for several sites under study, shall be site specific. The plan shall, at a minimum, include the following:

  - A statement of why data recovery is appropriate as a mitigating measure.

  - A research plan that explicitly provides the research questions that can reasonably be expected to be addressed by excavation and analysis of the site. The research plan may deviate from the suggested research questions provided by the County of San Diego; but if this is the case, the rational for rejecting certain research questions should be provided and more relevant questions posed.

  - A statement of the types and kinds of data that can reasonably be expected to exist at the site (based on the Phase 1 testing) and how these data will be used to answer important research questions.

  - A step-by-step discussion of field and laboratory methods to be employed. This will include the sampling strategy, methods of excavation and recovery of materials for special studies, and laboratory techniques for the analysis and interpretation of the materials.

  - All artifacts shall become public property. Provisions for curation and storage of the artifacts, notes, and photographs in the interpretative center shall be stated. A memorandum of agreement shall be prepared to formalize the curation policy.

- Additionally, provision for the onsite presentation and interpretation of the results of the archaeological studies at an interpretive center or museum shall be required. This shall be accomplished through adaptive reuse of one of the historic structures within the Project or through construction of a building within one of the parks or community centers.

Historic Resources - Mitigation measures for historic resources are essentially the same as for prehistoric resources as described above. The same steps and stages should be followed although, as described in the RMP, archival research and historical documentation shall be used to augment field testing programs. Mitigation of impacts to historic resources through preservation may be more feasible for historic sites than for prehistoric sites because they generally comprise a smaller area and can often be synthesized into a development plan. Adaptive reuse of standing historic structures shall be required where feasible, and preservation plans to ensure long term viability of the structures shall be required.

If in situ preservation is not possible, recovery of all possible information, both surface and subsurface, is the only other acceptable alternative. The data recovery program will be integrated with a corresponding archival research program to fully assess the significance of the material found on the sites. By creating a complementary research program that fully incorporates the archival material with the field results, many important research questions can be addressed.

Prehistoric/Historic Resources - Mitigation measures for prehistoric/historic resources are essentially the same as for prehistoric and historic resources as described above. The same steps and stages should be followed although, as described in the RMP, archival research and historical documentation may be used to augment field testing programs.

If in situ preservation is not possible, recovery of a representative amount or sample of information, both surface and subsurface, is the only other acceptable alternative. For historic components, the data recovery program shall be integrated with a corresponding archival research program to fully assess the significance of the material found on the sites. By creating a complementary research program that fully incorporates the archival material with the field results, many important research questions can be addressed.

The following mitigation measure is found to be infeasible:

- Stage 1 of the comprehensive mitigation plan will be to complete the intensive, systematic survey of the remaining 17,000 acres in compliance with the county's requirements. The Lead Agency shall direct a survey of the remaining portion of the Otay Ranch that shall be prepared as soon as feasible with the first SPA being completed no later than filing of the first SPA Plan application.

Rationale: Surveying the entire parcel is an extremely expensive process. Additionally, such surveys may have short "shelf lives" if state of the art techniques are developed. For example, if surveys of the San Ysidro parcel are required at the time development begins on the Otay River parcel, years could pass before development actually beings on the San Ysidro parecel. By the time development began, additional surveys and/or techniques could be required, rendering the earlier studies outdated and irrelevant. It is more logical to require incremental surveys linked to the development of the first SPA within each parcel, than to require a survey of the whole project site.

E. GEOLOGY AND SOILS

Significant Effect: Geology impacts include slope instability, development proposed on metavolcanic bedrock, and seismic hazards. Soils impacts include expansive soils, erosion, and liquefaction. [FPEIR, Volume 2, p. 4.9.6-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final EIR. The potential geologic and soils impacts identified in the Final EIR are mitigated to below a level of significance with the incorporation of the following site-specific mitigation measures into the design and construction of the Project.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings.

- At the tentative map level, site-specific geotechnical studies based on proposed development plans shall be conducted prior to construction to specifically evaluate soil conditions and characteristics, areas of potential slope instability, landslides, faults, liquefaction, and rippability characteristics. The studies shall be conducted by a qualified geotechnical engineer for the Project Applicant and shall meet the engineering standards of the appropriate jurisdiction. [FPEIR, Volume 2, p. 4.9.6-1]

  - Impacts related to slope instability shall be mitigated by site-specific geotechnical static and pseudo-static slope stability analyses conducted prior to submittal of tentative maps that will provide input relative to appropriate slope design alternatives. These mitigation measures shall include benching, adjusting heights and inclinations of proposed cut and fill slopes, retaining walls, slope protection, and/or erosion control devices.

  - Significant impacts due to ground rupture shall be avoided by not building directly over the fault trace. A site-specific geotechnical study would be necessary at the tentative map level to identify specific fault locations and

delineate fault setback zones (as necessary) in accordance with city and/or county guidelines.

- Potential damage from seismic ground shaking shall be mitigated by adhering to the Uniform Building Code, state-of-the-art seismic design parameters of the Structural Engineering Association of California (SEAOC), and applicable local building codes. Such seismic design suggests assuming a design ground acceleration that is equal to two-thirds of the maximum anticipated bedrock acceleration. The design acceleration for the Otay Ranch area is 0.18g. The seismic design parameters, provided as a result of a site-specific geotechnical study, shall be utilized by a qualified structural engineer in the design and construction of the Project.

- A qualified geotechnical engineering consultant shall perform an investigation of the site to evaluate the liquefaction potential upon submittal of tentative maps. Where potential for liquefaction is determined to be moderate to high (such as in major tributary canyon bottoms), mitigation measures shall include removal and recompaction of loose, unconsolidated soils, vibrofloatation, or dynamic compaction techniques.

- Landslide impacts shall be mitigated based upon site-specific geotechnical studies on all tentative maps submitted for the Project to delineate the limits of slides (i.e., head and toe). Landslides which may potentially impact developed areas shall be completely removed or buttressed during site grading. However, basal erosion of the slopes shall be avoided. Oversaturation and subsequent loading of the soils and sediments (from lawns, etc.) shall be avoided.

- At the tentative map level, onsite soils shall be investigated by a qualified geotechnical consultant to evaluate the potential for significant impacts due to erosion and expansion. Appropriate mitigation measures, such as those provided below, shall be incorporated into the Project design.

  - Erosion - Erosion shall be minimized through erosion control measures. During the construction phase, interim measures such as covering exposed graded slopes with visqueen and sandbagging at slope toes shall be implemented. During the operational phase, measures including maintenance of drought tolerant vegetative cover and vegetated buffer zones and appropriate drainage control devices shall be employed.

- Expansive Soils - Problems related to expansive (shrink-swell) soils shall be mitigated by selective grading and specially designed foundations in compliance with the Uniform Building Code (UBC).

F. PALEONTOLOGICAL RESOURCES

Significant Effect: Disturbance of paleontological resources. [FPEIR, Volume 2, p. 4.9.7-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines changes or alterations are required in, or incorporated into, the Project which will avoid any significant environmental effect as identified in the Final Program EIR. Implementation of the proposed mitigation measures would reduce impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these findings. As indicated in the Otay Ranch Resource Management Plan Polices, all mitigation work shall be done by a qualified professional paleontologist with a working knowledge of the Chula Vista/Otay Mesa area. [FPEIR, Volume 2, p. 4.9.7-1]

- Prior to issuance of development permits, the Applicant shall confirm to the City of Chula Vista or the County of San Diego that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with a M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.) A pre-grade meeting shall be held amongst the paleontologist and the grading and excavation contractors.

- A paleontological monitor shall be onsite at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations (i.e., San Diego, Otay, and Sweetwater formations) to inspect cuts for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.) The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall be onsite on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive geologic formations (i.e., unnamed river terrace deposits and the Mission Valley Formation) to inspect cuts for contained fossils.

  The monitor shall be onsite on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (i.e., Lindavista Formation and Santiago Peak Volcanics [metasedimentary portion only]) to inspect cuts for contained fossils. He or she shall periodically

(every several weeks) inspect original cuts in deposits with an unknown resource sensitivity (i.e., Quaternary alluvium).

In the event that fossils are discovered in unknown, low, or moderately sensitive formations, the Planning Department of the appropriate jurisdiction shall increase the per-day field monitoring time. Conversely, if fossils are not discovered, the monitoring, at the discretion of the Planning Department, shall be reduced. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics, metavolcanic portion).

- When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances and at the discretion of the Planning Department of the appropriate jurisdiction to set up a screen-washing operation on the site.

- Prepared fossils along with copies of all pertinent field notes, photos, and maps shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.

- Impacts to areas not planned for mass excavation operations (i.e., open space and parklands) shall be mitigated by setting aside certain portions of these areas as paleontological/geological preserves. Such areas might include the small north-south canyon just east of Rock Mountain on the north side of the Otay River Valley, the mesa surface between Johnson and O'Neal canyons on the south side of the Otay River Valley, the small canyon just west of where the ranch road crosses Poggi Canyon, and the ridge top northeast of the mouth of Little Cedar Canyon. These areas shall serve as both educational and scientific resources for future generations.

G. AGRICULTURAL RESOURCES

Significant Effect: Conversion of prime farmlands and elimination of existing crop production. [FPEIR, Volume 2, p. 4.9.8-1 through p. 4.9.8-2]

Finding: Pursuant to section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effects as identified in the Final EIR. However, the impacts remain significant and unmitigable. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings.

- In the Otay River parcel near the proposed composting facilities and Bird Ranch where prime soils are located, a demonstration agricultural area shall be set aside. Schools proposed within the Otay Ranch property shall be allowed to promote educational activities in regard to agriculture through the use of the demonstration agricultural area. A possible location for the demonstration area would be in the southwest portion of the Otay River parcel. This area is considered suitable since it contains prime agricultural soils and is designated as a regional park in the Project. Development of this area shall be within the proposed park. The size and exact location of the demonstration agricultural area shall be determined at the SPA level. The criteria to establish the demonstration agricultural activities shall include the following: 1) the demonstration area must be located within an area of the park containing prime farmland soils, and 2) its location shall not conflict with sensitive biological or cultural resources.

- Agricultural activity and the keeping of animals shall be allowed within the large, low density lots planned along the northern edge of the Proctor Valley parcel, as allowed within the Jamul-Dulzura Subregional Plan. Development plans for this area shall contain landscaping and buffering requirements designed to prevent nuisance impacts related to noise and odor, from occurring between adjacent internal residential uses.

* * *

Significant Effect: Inconsistency with existing County of San Diego and City of Chula Vista plans and policies and State policies. [FPEIR, Volume 2, p. 4.9.8-3]

Finding: According to state, county, and City of Chula Vista policies and goals, the loss of an agricultural resource for the potential production of coastal dependent crops and the loss of prime agricultural soils is considered to be a significant, unmitigable impact. Pursuant to section 15091 (a) (1) of the State CEQA Guidelines, changes, or alterations are required in or incorporated into, the Project which will substantially lessen the significant environmental impact as identified in the Final EIR. Pursuant to Section

15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding benefits.

Mitigation Measures: The following mitigation measure is found to be feasible and is required as a condition of approval and is made binding on the Applicant through these Findings.

- An Agricultural Plan shall be prepared by the Project Applicant prior to approval of any SPA Plans affecting onsite agricultural resources and shall be required for each subsequent development proposal (i.e., villages, Town Center, the Eastern Town Center, and the Rural Estate Planned Community). The Plan shall indicate the type of agricultural activity allowed as an interim use. Specifications shall include buffering guidelines designed to prevent potential land use interface impacts related to noise, odors, dust, insects, rodents, and chemicals that may accompany agricultural activities and operations. Adequate buffering shall be provided between the proposed development area and the interim agricultural use. Buffering measures shall include: 1) a 200-foot distance between property boundaries and agricultural operations; 2) if permitted interim agricultural uses require the use of pesticide, then limits shall be set as to the time of day and the type of pesticide application that may occur; 3) use of vegetation along the field edges adjacent to development that can be used for shielding (i.e., corn); and 4) notification of adjacent property owners of potential pesticide applications; and (5) use of fencing. The plan shall be reviewed by the city or county planning department that has jurisdiction over these areas to verify that the proposed plan is adequate to prevent significant interface impacts from occurring.

* * *

Significant Effect: Land use interface impacts associated with agricultural activities and urban uses. [FPEIR, Volume 2, p. 4.9.8-2]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final EIR. The mitigation measures described below will reduce impacts to below a level of significance.

Mitigation Measures: The following mitigation measure is found to be feasible and is required as a condition of approval and is made binding on the Applicant through these Findings.

- Landscaping and buffering guidelines shall be included in the development plans at the SPA plan level for the areas planned adjacent to existing agricultural uses.

These areas include the eastern edges of the Proctor Valley parcel and the northern edges of the San Ysidro parcel where estate residential uses would be developed near the Daley Ranch agricultural activities (i.e., crop cultivation and cattle ranging). [FPEIR, Volume 2, p. 4.9.8-4]

H. MINERAL RESOURCES

Significant Effect: Potential loss of mineral resources of economic value due to development or land use conflict. [FPEIR, Volume 2, p. 4.9.9-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. The phasing of development on Rock Mountain and on the San Ysidro and Proctor Valley parcels to allow for the extraction of mineral resources before construction would effectively mitigate impacts to mineral resources. However, it is not possible to evaluate the feasibility of this measure at this time, rather evaluation of the feasibility must occur at the time the area is proposed for a SPA plan. Should these measures not be feasible pursuant to Section 15091 (a) (3) of the State Guidelines, the impact to mineral resources would be significant and unmitigable. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measure is found to be feasible and is required as a condition of approval and is made binding on the Applicant through these findings.

- Compatible land uses shall be developed near the locations of future mineral extraction activities. If feasible, Project phasing shall allow for the extraction of mineral resources at Rock Mountain, the Nelson and Sloan quarry and the Daley quarry before conflicting development occurs.

The following mitigation measures are found to be infeasible:

- Rock Mountain shall be placed in a mineral extractive overlay designation or an RCA in accordance with the policies of the Mineral Resources Management Plan and mineral extraction shall be designated as the primary use.

- Development of the Proctor Valley and San Ysidro parcels shall be phased to allow for mineral extraction if the County's Mineral Resources Element determines that significant mineral resources are present on these parcels and if such phasing is feasible. [FPEIR, Volume 2, p. 4.9.9-1]

Rationale: The County never adopted a Mineral Resource Management Plan or a Mineral Resources Element; consequently, there is no plan or element to comply with.

I. WATER RESOURCES AND WATER QUALITY

Significant Effect: Increases in surface water runoff due to an increase in impervious surfaces could increase potential for downstream flooding, cause potential safety impacts, and increase erosion and siltation. [FPEIR, Volume 2, p. 4.9.10-1]

Findings: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final EIR. Ground-water and surface water impacts would be mitigated to a level below significance with implementation of the proposed mitigation measures at the SPA level of review.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.10-1]

- The Applicant for the first SPA shall prepare a comprehensive drainage infrastructure plan for the drainage basin as defined by the appropriate jurisdiction. The master drainage plans for each drainage basin shall be developed with the first SPA within each drainage basin. The specific master drainage plans shall include drainage infrastructure, staging/development detail, timing, financing, and responsibility for drainage impacts. The master drainage plans shall comply with Title 44 of the Code of Federal Regulations in regard to development on floodplains. In addition, the master drainage plans shall comply with County of San Diego protection ordinances regarding the floodway and floodplain fringe wetlands or with Chula Vista ordinances. Any channel improvements on a watershed greater than one (1) square mile shall comply with Section 404 of the Clean Water Act.

- The impacts associated with inundation shall be quantified by hydrologic and hydraulic studies by a qualified hydrologist for the Project Applicant at the SPA Plan level when a detailed development plan is available. The hydraulic studies shall demonstrate that the Project design meets Title 44 of the Code of Federal Regulations and the County of San Diego and City of Chula Vista floodplain encroachment and engineering standards contained in the appropriate ordinances of each jurisdiction. The recommendations of these studies shall be implemented in order to mitigate impacts. The studies shall include:

  - A detailed site-specific floodplain/floodway width study shall be completed at the tentative map stage to ensure that encroachment of the floodway is avoided. The floodplain fringe may be developed in certain areas if a

retaining structure (e.g., dike, etc.) is built at the floodway boundary. Under the supervision of the Public Works Department of the appropriate agency, the Applicant shall conduct a detailed design study for each bridge and culvert. All proposed bridges and culverts shall be designed and constructed for the 100-year flood without causing backwater effects or hydraulic conditions that would lead to significant scouring or erosion of embankments.

- The Otay Ranch development shall not increase existing 100-year flood flows above natural conditions unless downstream structures can accommodate the increase in total discharge, peak discharge, and increased velocities, or the Applicant constructs required detention basins to prevent adverse impacts.

- At the SPA plan level, the impacts associated with change in water velocities shall be addressed by detailed hydrologic and hydraulic studies prepared by a qualified hydrologist. These studies shall discuss erosion and sedimentation of the Project development and specifically how these impacts shall be avoided through design features in accordance with Title 44 of the Code of Federal Regulations and City of Chula Vista and County of San Diego erosion control standards. The recommendations of these studies shall be implemented.

  - The Applicant shall protect all embankments and slopes within the floodplain to prevent erosion.

  - Energy dissipation devices shall be necessary at the confluences of the storm drainage system and the natural channels to prevent erosion.

  - Siltation basins shall be necessary at locations where the runoff velocity drastically decreases.

- Potential water quality problems shall be mitigated by implementing the plans provided in the Urban Runoff/Reservoir Study. These plans include a dry weather system to collect all dry weather urban runoff, spills, and approximately 25 percent of rain runoff (the first flush). The first flush would contain a large majority of the urban pollutants. The Project plans shall also include a water monitoring program to check the effectiveness of the system. As indicated in Table 3.9-5 of the Final Program EIR, the salt modeling by Wilson Engineering shows that this procedure would be effective in reducing urban pollution to a level similar to existing conditions prior to urbanization. This level shall meet the Primary Drinking Water standards, which would in turn maintain quality for the beneficial uses of the lake, including recreation and fisheries. All systems shall be designed so that in the case of pipe failure the effluent is adequately captured. The Applicant shall create buffer zones around the lakes. The buffer zones shall

take into account the predicted volume of runoff, predicted pollutant concentrations, and appropriate vegetation type.

The Applicant must comply with all applicable regulations established by the United States Environmental Protection Agency as set forth in the National Pollutant Discharge Elimination System (NPDES) permit requirements for urban runoff and stormwater discharge and any regulations adopted by the City of Chula Vista or County of San Diego pursuant thereto. The City of Chula Vista and County of San Diego have a Municipal Permit from the State Regional Water Quality Control Board (RWCQB) for stormwater discharge. In order to be covered under a Municipal Permit, Order No. 90-42, NPDES No. CA0108758, the developed area shall be required to mitigate impacts to stormwater quality. Further measures that are more strict than the permit standards, however, shall be imposed if necessary to reduce the impact below a level of significance after appropriate site specific studies at the SPA level.

In addition, the RWQCB has issued one general permit that applies to construction activity. In order to be covered under the Construction General Permit, a Notice of Intent (NOI) must be filed with the RWQCB. Compliance with the Permit requires that a stormwater pollution prevention plan be prepared and implemented for the Project.

Best management practices, design, treatment, and monitoring for stormwater quality must be addressed with respect to Municipal and Construction Permits.

Detailed stormwater quality studies shall be conducted by a qualified hydrologic engineer at the SPA Plan level to develop appropriate mitigations that protect the quality of both the Otay Reservoirs and the remaining waterways. The stormwater quality studies shall demonstrate that no degradation of water quality will occur.

- Potential significant decreases in recharge to the aquifer system shall be mitigated by utilizing unlined natural channels and unlined siltation basins. Prior to SPA plan approval, a study shall be prepared by a qualified hydrogeologic engineer. Such study shall address the issues of manmade recharge systems. The study shall identify the appropriate recommendations to be implemented during Project buildout in order to mitigate possible aquifer recharge impacts. The study shall demonstrate that the City of Chula Vista or County of San Diego standards on aquifer recharge shall be achieved.

* * *

Significant Effect: Development may encroach into the 100-year floodplain. [FPEIR, Volume 2, p. 4.9.10-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. The following mitigation measures would reduce impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as a condition of approval and are made binding on the Applicant through these findings. [FPEIR, Volume 2, p. 4.9.10-1]

- The development of permanent structures for human habitation or as a place of work shall not be permitted in a floodway. Uses permitted in a floodway shall be limited to agricultural, recreational, and other such low-intensity uses provided, however, that no use shall be permitted which will substantially harm the environmental values of a particular floodway area. Mineral resources extraction shall be permitted subject to any necessary approvals, provided that mitigation measures are required which produce any net gain in the functional wetlands and Riparian habitat.

- Modifications to the floodway shall meet all of the following criteria:

  a. Concrete or rip-rap flood control channels are allowed only where findings are made that completion of the channel is necessary to protect existing buildings from a current flooding problem. Buildings constructed after the enactment of the Resource Protection Ordinance shall not be the basis for permitting such channels.

  b. Modification will not unduly accelerate the velocity of water so as to create a condition which would increase erosion (and related downstream sedimentation) or would be detrimental to the health and safety of persons or property or adversely affect wetlands or riparian habitat.

  c. In high velocity streams where it is necessary to protect existing housing and other structures to minimize stream scour or avoid an increase in the transport of stream sediment to downstream wetlands and other environmentally sensitive habitat areas, grade control structures and other erosion control techniques, including the use of rip-rap, that are designed to be compatible with the environmental setting of the river, may be permitted. The use of rip-rap shall be allowed only when there is no other less environmentally damaging alternative feasible.

- All uses permitted by zoning and those that are allowable in the floodway area allowable in the floodplain fringe, when the following criteria are met:

a. Fill shall be limited to that necessary to elevate the structure above the elevation of the floodway and to permit minimal functional use of the structure (e.g., fill for access ramps and drainage). If fill is placed in the floodplain fringe, the new bank of the stream shall be landscaped to blend with the natural vegetation of the stream and enhance the natural edge of the stream.

b. Any development below the elevation of the 100-year flood shall be capable of withstanding periodic flooding.

c. The design of the development shall incorporate the findings and recommendation of a site-specific hydrologic study to assure that the development: (1) will not cause significant adverse water resource impacts related to quality or quantity of flow or increase in peak flow to downstream wetlands, lagoons and other sensitive habitat lands; and (2) neither significantly increases nor contributes to downstream bank erosion and sedimentation of wetlands, lagoons or other sensitive habitat lands.

d. Lot configuration shall be designed in such a manner as to minimize encroachment into the floodplain. The proposed development shall be set back from the floodway boundary a distance equal to 15 percent of the floodway width (but not to exceed one hundred feet), in order to leave an appropriate buffer area adjacent to the floodway. The setback may be greater if required by paragraph f.

Following review of a site specific flood analysis, the floodplain setback required by this paragraph may be reduced by the Director of Planning of the appropriate jurisdiction or the applicable hearing body, upon making all of the following findings:

1. Practical difficulties, unnecessary hardship, or results inconsistent with the general purposes of this ordinance would result from application of the setback; and

2. The reduction in setback will not increase flood-flows siltation and/or erosion, or reduce long-term protection of the floodway, to a greater extent than if the required setback were maintained; and

3. The reduction in setback will not have the effect of granting a special privilege not shared by other property in the same vicinity; and

4. The reduction in setback will not be materially detrimental to the public health, safety, or welfare, or injurious to the property or improvement in the vicinity in which the property is located; and

5. The reduction in setback will not be incompatible with the General Plan of the appropriate jurisdiction.

e. Where appropriate, flowage and/or open space easements shall be used to ensure future development will not occur in the floodplain.

f. In areas where the Director of Public Works has determined that the potential for erosion or sedimentation in the floodplain is significant, all proposed development shall be set back from the floodway so that it is outside the Erosion/Sedimentation Hazard Area shown on County/City Floodplain Maps. Development will only be allowed in the Erosion/Sedimentation Hazard Area when the Director of Public Works of the appropriate jurisdiction approves a special study demonstrating that adequate protection can be achieved in a manner that is compatible with the natural characteristics of the floodplain.

g. If the subject floodplain fringe land also constitutes wetlands, wetland buffer areas, steep slope lands, sensitive habitat lands or significant prehistoric or historic site lands, the use restrictions herein applicable to such areas shall also apply.

* * *

Significant Effect: Potential increase in contaminant concentrations in Lower Otay Lake due to conversion of undeveloped land to urban uses. [FPEIR, Volume 2, p. 4.9.10-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. The following mitigation measures would reduce impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.10-1]

- An Urban Runoff Master Plan shall be prepared for Otay Lakes by a qualified hydrologic engineer for the Project prior to or concurrent with the first SPA Plan in a drainage basin affecting Otay Lake. The Master Plan shall determine that the existing water quality at the outflow of the water filtration plant will, at a minimum, be maintained.

The Master Plan shall address and/or include analysis of the following issues:

- Existing Water Quality
  - ♦ Water in Lower Otay Lake
  - ♦ Outflow from Lower Otay Lake
  - ♦ Inflow to Lower Otay Lake
- Drainage Basin Characteristics (Otay Ranch)
  - ♦ Existing
  - ♦ Proposed
- Water Quality/Quantity
  - ♦ Establishment of water quality needs for potable supply, fisheries, and recreation
  - ♦ Runoff quality goals
  - ♦ Runoff quantity goals
  - ♦ Mitigation of runoff quality and quantity
- Evaluation of Alternative Urban Runoff System
  - ♦ Alternative systems
  - ♦ Recommended system
  - ♦ Phasing of recommended system
  - ♦ Non-structural controls and watershed protection programs
  - ♦ Spill Management (Spill Management is to include the location of all sewer mains, sewer force mains, and sewer pump stations ungradient of the urban runoff interceptor trenches.)
- Capital Financing Plan
  - ♦ Estimated cost by phase

- Financing methods
- Recommended financing mechanism
- Agreement and financing plans for operations and maintenance of water management program

The Master Plan may allow for development of sub-plans within each basin if the following conditions are met:

- The basins are identified in the Master Plan.
- All sub-plans conform to the Master Plan and are prepared and adopted concurrently with the first SPA Plan in any given basin.

- In addition, urban runoff and surface water quality shall be specifically addressed in each SPA Plan. At the SPA Plan level, detailed water quality analysis shall be performed and appropriate mitigation measures developed. Amounts of urban runoff loading shall be estimated for metals, herbicides, pesticides, fuels, and surfacants.

- Best management practices (BMPs) shall be designated and implemented at the SPA Plan level in order to reduce the quantity and improve the quality of surface water runoff. EIRs at the SPA level shall include analysis of specific BMPs in the categories of reduced pollutant generation, reduced pollutant transport, and treatment of polluted runoff. Specific BMPs that shall be considered at the SPA level include:

  - Mitigations to reduce impervious surfaces such as grassed swales, filter strips, constructed wetlands, detention ponds, infiltration trenches/basins, replacement of concrete with permeable surface, and use of natural channels where possible.
  - Mitigations to reduce or prevent pesticide contamination impacts such as Integrated Pest Management, non-use of pesticides along roadways, use of only EPA-approved chemicals and plan of pesticide use around upcoming precipitation events.

- With the first SPA plan in any given basin, a Watershed Impact and Protection Report shall be developed and implemented for each drainage basin.

The impact of 25 percent of the runoff being diverted from the Otay Lakes will be avoided because increased runoff due to impermeable surfaces will substantially offset the lost surface water.

The following mitigation measure is rejected as infeasible:

- If more water is needed to offset surface water losses, routing of more water from the County Water Authority shall be required.

Rationale: The decision to route more water from the County Water Authority is not a decision within the jurisdiction of either the City or the County. Additionally, the adoption of other mitigation measures (set forth above) will assure that the identified impact is reduced to below a level below significance.

J. TRANSPORTATION, CIRCULATION, AND ACCESS

Significant Effects: Impacts to the road network in the South Bay, including proposed SR-125. [FPEIR, Volume 2, p. 4.9.11-1, p. 4.9.11-4 and 4.9.11-13]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid significant project generated environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings.

- At the SPA level, a traffic analysis shall be conducted within the study area of the proposed SPA to identify additional transportation mitigation measures for the construction of new roads, bridges and roadway improvements, and shall implement transportation demand/system management programs and/or facilities or other measures necessary to mitigate traffic impacts on circulation element roads. The standard to be achieved requires that the Project avoid reduction in the existing level of service below "C" with the exception that LOS "D" may occur on signalized arterial segments for a period not to exceed a total of two hours per day. If the existing level of service is below "C", mitigation measures to achieve level of service "C" (with the exception that level of service "D" will be allowed on signalized arterial segments for a period not to exceed a total of two hours per day) must be imposed as conditions of approval for the SPA. Internal village streets/roads are not expected to meet these standards. The Applicant shall adhere to the following guidelines:

  - Arterial segment LOS measurements shall be for the average weekday peak hours, excluding seasonal and special circumstance variations.

- Urban and suburban arterials are defined as surface highways having signal spacing of less than two miles with average weekday traffic volumes greater than 10,000 vehicles per day.

- Arterial segments are stratified into three classifications:

  - ♦ Class I arterials are roadways where free flow traffic speeds range between 35 mph and 45 mph and the number of signalized intersections per mile is less than four (4). There is no parking and there is generally no access to abutting property.

  - ♦ Class II arterials are roadways where free flow traffic speeds range between 30 mph and 35 mph, the number of signalized intersections per mile range between four (4) and eight (8). There is some parking and access to abutting properties which is limited.

  - ♦ Class III arterials are roadways where free flow traffic speeds range between 25 mph and 35 mph, and the number of signalized intersections per mile are closely spaced. There is substantial parking and access to abutting property which is unrestricted.

- The LOS measurement of arterial segments and freeway ramps shall be a growth management consideration in situations where proposed developments have significant impact at interchanges.

- Circulation improvements should be implemented prior to anticipated deterioration of LOS below established standards.

- The criteria for calculating arterial LOS and defining arterial lengths and classifications shall follow the procedures detailed in Chapter 11 of the 1985 Highway Capacity Manual (HCM) and shall be confirmed by the City or County Traffic Engineer, as appropriate.

- During the preparation of future Traffic Monitoring Program field surveys, intersections experiencing significant delays will be identified. The information generated by the field surveys will be used to determine possible signal timing changes, geometric and/or traffic operational improvements for the purpose of reducing intersection delay.

- Level of Service values for arterial segments shall be based on the following table:

Table I

Level of Service	Average Travel Speed (mph)		
	Class 1	Class 2	Class 3
A	≥35	≥30	≥25
B	≥28	≥24	≥19
C	≥22	≥18	≥13
D	≥17	≥14	≥ 9
E	≥13	≥10	≥ 7
F	<13	<10	< 7

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 1985.

- To the extent that Otay Ranch contributes to the need for a facility outside of its boundaries, the Project shall contribute (at the level at which it impacts the facility) to the mitigation of the impact by participating in impact fee programs or other means identified at the SPA or tentative map level.

- Applicants on the Otay Valley Parcel shall contribute their "fair share" to the capital and operating costs associated with the transit facilities serving the Project. This shall be done through provisions in facility financing plans at the SPA level. Further, benefit assessment districts shall be established to fund new transit routes under MTDB Board policy No. 40 Non-Transit Funding of Transit Services.

* * *

Significant Effects: Impacts to road segments and intersections due to increase in traffic associated with Otay Ranch. [FPEIR, Volume 2, p. 4.9.11-1 through p. 4.9.11-49.11-27]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid significant environmental effects as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.11-13 through 4.9.11-22 and Phase II Progress Plan with Village Design and TDM Assumptions Technical Analysis prepared by JHK and Associates, February, 1993]

General Mitigation Measures

- The Applicant shall participate in fair share funding and implementation of the following general mitigation measures:

  - Prepare Transportation Demand Management (TDM) Mitigation Strategies (See SANDAG Report "Trip Making in Traditional San Diego Communities", February, 1993)

  - Prepare Transportation Phasing Plans

  - Provide Parallel Arterial System

  - Improve Mode Split

  - Increase Local/Regional Trip Capture

  - Update General Plans

  Regional Freeway System Mitigation

  - Increase Freeway Capacities

  Arterial Segment Mitigation

  - Increase Segment Capacities

  Arterial Intersection Mitigation

  - Increase Intersection Capacities

  Other Mitigation Strategies

  - Implement Transportation System Management Strategies

  - Implement Traffic Control Strategies

- For each SPA, the Applicant shall prepare a detailed analysis of peak hour turning movement volumes and intersection capacity for all major affected intersections as determined by the traffic engineer representing the reviewing jurisdiction or agency. (At a minimum these study area intersections include all intersections with entering volumes in excess of 65,000 vehicles per day under the proposed land use plan.) This analysis will define the mitigation measures necessary to achieve levels of service described above. If the proposed land use plan has not been evaluated by the SANDAG model, or, if the SANDAG model has been substantially modified, (i.e., updated land use and/or network

assumptions), then updated modeling of the SPA project shall be required to allow the completion of detailed peak hour analyses.

- The Applicant shall construct as a condition of approval to the SPA, new roads, bridges and roadway improvements, and shall implement transportation demand/system management programs and/or facilities, or other measures necessary to fully mitigate traffic impacts (related to traffic impacts of the Project) on circulation element roads, to avoid reduction in the existing Level of Service below "C", with the exception that LOS "D" may occur on signalized arterials for a period not to exceed a total of two hours per day.

- No more than 15,000 dwelling units or 4,000,000 million square feet of commercial may be constructed within the Project until funding and construction for LRT is assured. As described earlier, Applicants in the Otay River parcel shall contribute their "fair share" to the funding of these facilities and operating costs.

Project-specific Mitigation Measures

The following Project-specific measures have been required for individual onsite and offsite segments and intersections to mitigate significant impacts associated with the Project. For the onsite and offsite segments and intersections which were identified as required mitigation in the FPEIR, a subsequent analysis of buildout traffic conditions under village design and Transportation Demand Management (TDM) assumptions was conducted (JHK and Associates, February, 1993). The purpose of this subsequent analysis was to estimate the potential benefits of the village design and TDM conditions on the proposed Phase II Progress Plan circulation network and define appropriate reductions in required mitigation. Thus, individual segment mitigation measures as recommended in the FPEIR were eliminated (because they were no longer necessary), and/or, replacement mitigation to increase intersection capacity at the major signalized intersections along these impacted segments was developed. For a segment mitigation measure to be eliminated, the segment ADT volume under village design and TDM assumptions reduced the impact to conform with the LOS C threshold criteria. Consequently, acceptable peak hour intersection and segment levels of service will result and conformance with Traffic Threshold Standards will be achieved. However, if at the SPA level review, forecasted reductions in traffic activity resulting from village design and TDM assumptions are not expected to occur, the initially recommended mitigation may be necessary.

Onsite Network

- Upgrade EastLake Parkway between Orange Avenue and EUC North from 4-lane major to 6-lane major and provide special at-grade intersection design [3] or grade separated intersection design.

- Upgrade Village 2 Local between EUC North (La Media Road) and EUC North (Village 2 Loop Road) from 2-lane local collector to 4-lane collector.

- Upgrade Village 3 Local between Village 3 Local (Village 3 Loop Road) and Paseo Ranchero from 2-lane local collector to 3-lane collector.

- Upgrade Village 3 Local (Village 3 Loop Road) from 2-lane local collector to 3-lane collector.

- Upgrade Village 6 Local between EUC Major and Village 6 Collector from 2-lane local collector to 4-lane collector.

- Upgrade Village 7 Local between Village 7 Collector and Village 7 Major from 2-lane local collector to 3-lane collector.

- Upgrade Village 7 Local between Village 7 Major and Village 7 Collector from 2-lane local collector to 3-lane collector.

Offsite Network

The Applicant shall participate in fair share funding and implementation of the following:

- Upgrade Bonita Road between I-805 and Plaza Bonita Road by providing at-grade intersection design (see. footnote 2 above).

- Upgrade Bonita Road between Plaza Bonita Road and Willow Street by providing special at-grade intersection design (See, footnote 2 above).

- Upgrade Bonita Road between Willow Street and Otay Lakes Road by providing special at-grade intersection design (see footnote 2 above).

- Upgrade Bonita Road between Otay Lakes Road and Central Avenue by providing special at-grade intersection design (see footnote 2 above).

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[3] For major intersections, mitigation may require enhanced at-grade intersection design treatments including double left-turn lanes, exclusive unrestricted free right-turn lanes and/or additional through lanes where appropriate (for actual intersection improvement recommendations, see Phase II Progress Plan with Village Design and TDM Assumptions Technical Analysis prepared by JHK and Associates, February, 1993).

- Upgrade Camino Macquiladora between Otay Mesa Road and Heritage Road from a 2-lane collector to a 4-lane collector.

- Upgrade Camoustie Road between Harvest Road and Domoch Court from a 2-lane collector to a 3-lane collector.

- Upgrade Del Sol Road west of Paseo Ranchero from a 2-lane collector to a 3-lane collector.

- Upgrade East H Street between I-805 and Terra Nova Road from a 6-lane prime to an 8-lane prime.

- Upgrade EastLake Parkway between Palomar Street and Orange Avenue from 4-lane major to 6-lane prime and provide special at-grade intersection design (see footnote 2 above).

- Upgrade EastLake Greens between Hunte Parkway and Hunte Parkway from a 2-lane collector to a 3-lane collector. (loop road)

- Upgrade EastLake Local between EastLake Parkway and EastLake Greens from 2-lane collector to a 4-lane collector.

- Upgrade EastLake Trails between Hunte Parkway and Hunte Parkway from a 2-lane collector to a 3-lane collector.

- Upgrade Hunte Parkway between EastLake Trails and Orange Avenue from a 4-lane major to a 6-lane major.

- Upgrade La Media Road between SR-905 and Airway Road from a 4-lane major to a 6-lane prime.

- Upgrade Oleander Avenue between Telegraph Canyon Road and Naples Avenue from a 2-lane collector to a 4-lane collector.

- Upgrade Otay Lakes Road between East H Street and Telegraph Canyon Road by providing special at grade design (see footnote 2 above) or grade separated intersection design.

- Upgrade Otay Lakes Road between SR-125 and EastLake Parkway from a 6-lane prime to an 8-lane prime and by providing special at-grade intersection design (see footnote 2 above) or grade separated intersections.

- Upgrade Paseo Del Rey between East H Street and Telegraph Canyon Road from a 2-lane collector to a 4-lane collector.

- Upgrade Paseo Ranchero between East J Street and Telegraph Canyon Road from a 4-lane collector to a 4-lane major.

- Upgrade Sweetwater Road between Bonita Mesa Road and Willow Street from 4-lane collector to 6-lane major. (see footnote 3 above).

- Upgrade Sweetwater Road between Bonita Road and SR-54 from 4-lane collector to 4-lane major. (see footnote 3 above).

- Upgrade Willow Street between Sweetwater Road and Bonita Road from 4-lane collector to 4-lane major.

If forecasted reductions in traffic activity resulting from village design and TDM analysis do not occur, additional mitigation, as identified in the FPEIR, would be required on the following segments:

- Upgrade EUC North between Village 2 Local and La Media Road from a 4-lane collector to a 4-lane major, and by providing special at-grade intersection design (see footnote 1 above) or grade separated intersection design.

- Upgrade Village 5 Local between Village 5 Collector and Palomar Street from 2-lane local collector to 3-lane collector.

- Upgrade Village 6 Local between Village 6 Collector and EUC Major from 2-lane local collector to 3-lane collector.

- Upgrade Central Avenue between Bonita Road and Carrol Canyon Road from a 2-lane collector to a 4-lane collector.

- Hunte Parkway between Otay Lakes Road and EastLake Greens from a 4-lane major to a 6-lane major and by providing special at-grade intersection design (see footnote 2 above).

- Upgrade La Media Road between Otay Mesa Road and SR-905 from a 4-lane major to a 6-lane major by providing special at-grade intersection design (see footnote 2 above).

- Upgrade Brittania Boulevard between SR-905 and Airway Road from a 4-lane major to a 6-lane major.

- Upgrade Millar Ranch Road between SR-94 and Proctor Valley Road from a 4-lane collector to a 4-lane major.

- Upgrade Orange Avenue between Hunte Parkway and EastLake Vista from a 4-lane major to a 6-lane major by providing special at-grade intersection design (see footnote 2 above).

- Otay Lakes Road between Bonita Road and East H Street by providing special at-grade intersection design (see footnote 2 above).

- Upgrade Paseo Ranchero between Otay Valley Road and Del Sol Road by providing special at-grade intersection design (see footnote 2 above).

- Upgrade Wueste Road between Otay Lakes Road and Orange Avenue from a 2-lane collector to a 3-lane collector.

If forecasted reductions in traffic resulting from village design and TDM analysis do not occur, additional segment mitigation, beyond special at-grade intersection upgrades as identified previously in these Findings, would be required:

- Bonita Road between I-805 and Plaza Bonita Road from 4-lane major to 6-lane prime.

- Bonita Road between Plaza Bonita Road and Willow Street from 4-lane major to 6-lane major.

- Bonita Road between Willow Street and Otay Lakes Road from 4-lane major to 6-lane prime.

- Bonita Road between Otay Lakes Road and Central Avenue from 4-lane major to 6-lane major.

- Bonita Road between Central Avenue and San Miguel Road from a 4-lane collector to a 4-lane major.

* * *

Significant Effect: Potential secondary impacts related to offsite roadway improvements. [FPEIR, p. 4.9.11-24 and Table 3.10-9]

Finding: As discussed in the FPEIR and at public hearings on the Project certain secondary impacts related to offsite improvements may occur (i.e.: impacts to biological resources, cultural resources, land use and aesthetics). However, at this time it is speculative to forecast mitigation because such off site improvements may not be required for 10 - 20 years or more. Additionally, such offsite improvements will be subject to environmental review at the time that such discretionary action is proposed. For these reasons, the Board determines that there are no feasible mitigation measures that could

be adopted by the Board without the Board engaging in sheer speculation. Pursuant to Section 15091 (a)(3) there are no feasible measures that would mitigate the impact below a level of significance at this time. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations.

K. AIR QUALITY

Significant Effect: Air quality impacts would exceed the current State Implementation Plan (SIP) air quality attainment regulations which were based on SANDAG Series 7 growth projections. Also, Project emissions of NOx, reactive organic gases (ROG), CO, and PM-10 from vehicular and stationary sources would add to existing violations of federal and state ozone standards. [FPEIR, Volume 2, p. 4.9.12-1]

Finding: San Diego County currently exceeds ambient air quality standards. Additionally, population growth in the county is expected to continue (and may even exceed current Series 7 projections); therefore, the mitigation measures described below will not reduce emissions to a point where there is no net increase in the regional pollution background. Pursuant to section 15091 (a) (1), the mitigation measures required below would substantially lessen the impacts on air quality, but the impacts would still remain significant. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no other feasible mitigation measures that would mitigate the impacts below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that these significant impacts are acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are found to be feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.12-1]

- The Applicant shall incorporate into the SPA plans all feasible measures developed by the County of San Diego in the Regional Air Quality Strategy (RAQS) in response to the California Clean Air Act (CCAA).

- The Applicant shall incorporate into the SPA plans the following measures:

  Land Use

  - Neighborhood shopping and personal services adjacent to residential areas to minimize auto trips and reduce mileage traveled to service areas.

  - Open space and recreational facilities within or adjacent to the residential areas.

- Employee services within walking distance (i.e., banking, child care, restaurants, etc.).

- A balanced mix of housing and employment possibilities to reduce trips and vehicle miles traveled.

Siting/Design

- The avoidance of potentially incompatible projects (for example, a residential development near one of the quarries or the landfill).

- Dedicated bike lanes to encourage use of bicycles.

- Bicycle storage facilities at employment and retail centers.

- Shower and locker facilities at offices to encourage bicycle use.

- Sidewalks and curbs to ensure safe pedestrian travel within residential areas and to commercial centers.

- Street designs that promote pedestrian safety (i.e., safe islands in center of major arterials, "Walk" signals, night lighting, etc.).

- Shopping centers oriented to promote use by mass transit (i.e., provide bus turnouts, pedestrians, and bicyclists).

- Parking lots designed to promote use of mass transit and car pools.

- The installation of heat transfer modules on gas-fired furnaces to control emissions of NOx.

- Solar heating to heat water for domestic use and for swimming pools. Advances in solar technology in the future may make other applications appropriate.

- Low-NOx residential and commercial water heaters.

- Enhanced energy efficiency in building designs and landscaping plans.

- Identify an environmental coordinator to be responsible for education and disseminating information on ridesharing and/or mass transit opportunities, recycling, energy conservation programs, etc.

Transportation-related Management Actions

- Land for transit support facilities such as bus stops, park-and-ride lots, etc. shall be provided. A determination to dedicate land shall be made in consultation with the Metropolitan Transportation Development Board (MTDB).

- Amenities to increase convenience and attractiveness of transit stops (i.e., passenger staging areas, waiting shelters, etc.) shall be provided.

- Demand-responsive traffic signals shall be negotiated.

- An agreement with the transit agency to institute new routes or express bus service, or to expand existing service, related to the demand caused by the Project shall be negotiated.

- Fair share participation for transit facilities and operation shall be required.

- Compliance with APCD Indirect Source Control Program, if adopted.

- Major employers shall provide ridesharing or mass transit incentives.

* * *

- No more than 15,000 dwelling units or 4,000,000 million square feet of commercial may be constructed until funding and construction for LRT is assured.

Significant Effect: Short-term emissions would occur during Project construction. [FPEIR, Volume 2, p. 4.9.12-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. The following changes or alterations have been required in, or incorporated into, the Project and will reduce the impacts to below a level of significance.

Mitigation Measures: The following techniques to reduce construction emissions are found to be feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.12-1]

The following conditions shall be included in each SPA Plan:

- Minimize simultaneous operation of multiple construction equipment units.

- Low pollutant-emitting construction equipment shall be used.
- Electrical construction equipment shall be used, as practical.
- Catalytic reduction for gasoline-powered equipment shall be used.
- Injection timing retard for diesel-powered equipment shall be used.
- The construction area shall be watered at least twice daily to minimize fugitive dust.
- Graded areas shall be stabilized (for example, hydroseeded) upon completion of grading to minimize fugitive dust.
- Permanent roads shall be paved immediately after grading to minimize dust.

L. NOISE

Significant Effect: Noise levels in many areas of the Project would exceed the 60dBA CNEL standard for residential uses. Also, indirect roadway and construction noise would exceed the 60 dBA L_{eq} standard for Least Bell's vireo habitat and California Gnatcatcher. [FPEIR, Volume 2, p. 4.9.13-1 through p. 4.9.13-3]

Finding: Significant noise impacts have been identified from roadways, the Nelson and Sloan Mining Operation, the Daley Quarry, the Otay Landfill, the San Diego Air Sports Center, construction sites, and the various industrial activities in close proximity to the Project site. Pursuant to section 15091 (a) (1) of the CEQA Guidelines changes or alterations are required in, or incorporated into, the Project which will substantially lessen the identified noise impacts from these noise sources, but not to below a level of significance. This determination must be made at the SPA level when more detailed development plans are available to assess impacts and current conditions. Therefore, pursuant to Section 15091 (a) (3) of the State CEQA Guidelines there are no feasible measures that would mitigate the impacts below a level of significance at the GDP level. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this significant impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.13-4 through p. 4.9.13-5]

- The GDP text identifies areas where a site-specific study is required. The identified areas shall include the following:

- Areas within 9300 feet of the Nelson and Sloan Mining Operation and the Daley Quarry, and other operating quarries;

- All areas within the 60 CNEL noise contour of onsite and offsite roadways, which shall include all roadways on the Otay River parcel and all roadways assigned a future ADT of 3000 trips or greater on the Proctor Valley and San Ysidro parcels;

- All areas within 1250 feet of the Otay Landfill;

- All areas within one mile of the San Diego Air Sports Center; and

- All areas adjacent to Least Bell's Vireo habitat and California Gnatcatcher habitat.

Site-specific acoustical analyses shall be required during SPA Plan review and prior to adoption of any Circulation Element General Plan Amendments. The study shall provide a description of the Project, the existing noise environment, the methods of evaluation, the future acoustical environment, noise impacts, and the required mitigation measures. The study shall be prepared by a qualified acoustician in accordance with local standards for preparation of such studies. The following standards shall be achieved.

- Residential development within the impact area shall not be allowed unless the site specific noise study shows that the exterior noise level can be mitigated to 60 CNEL or below and that the interior noise level can be mitigated to 45 CNEL or below.

- Impacts to Least Bell's Vireo and California Gnatcatcher habitat shall be mitigated to achieve a level of 60 DBA L_{eq} or below.

- Proper site planning to reduce noise impacts shall be utilized for all noise sensitive land uses. Site planning techniques shall include the following:

  - Place commercial uses adjacent to the high noise roadways such as Heritage Road, Orange Avenue, Otay Valley Road, Paseo Ranchero, and State Route 125.

  - Place less noise-sensitive land uses on parcels closest to significant noise generators such as the Nelson and Sloan Mining Operation, the Daley Quarry, the Otay Landfill, and adjacent to the various industrial activities and other quarry operations.

- Increase the distance from the noise source to sensitive receptors by creation of setbacks.

- Place noise-sensitive land uses outside of the 60 CNEL noise contour of roadways.

- Place non-noise sensitive uses such as parking lots and utility areas between the noise source and receiver.

- Orient usable outdoor living space such as balconies, patios, and children play areas away from roadways.

- Noise barriers such as walls and earthen berms shall be used to mitigate noise from ground transportation sources when setbacks are not feasible. To be effective, a barrier(s) shall block the line-of-sight from the source to the receiver. A barrier shall also be of solid construction (e.g., masonry) without holes or gaps and be long enough to prevent sound from passing around the ends. A site-specific acoustical analysis shall be required to determine the proper height and placement of a barrier.

- An interior acoustical analysis shall be required for all residential buildings located within the 60 CNEL noise contour to ensure that the building's design limits the interior noise level to 45 CNEL or below. The analysis shall be conducted upon submittal of building plans by a qualified acoustician. Careful consideration shall be given to the placement of doors and windows. Construction techniques such as heavy pane or double-pane windows shall be required to increase the sound insulation within a room. If it is necessary to close windows to control interior noise, an alternative means of ventilation such as heat pumps or a forced air unit is required to meet the Uniform Building Code requirements.

M. PUBLIC SERVICES AND FACILITIES

Water Availability and Supply:

Significant Effect: Project-generated water requirements would result in significant impacts related to the capability of local jurisdictions to provide adequate water. [FPEIR, Volume 2, p. 4.9.14-1]

Finding: As discussed in the FPEIR, it is unknown at this time if, in the future, adequate water supply will be made available to the County Water Authority (CWA) from the Metropolitan Water District (MWD). If it is determined that adequate water supply is not available at the time of individual SPA Plan review, development shall not proceed. If it is determined that adequate water supply is available at the time of

individual SPA Plan review, implementation of the following mitigation measures shall be required. Identifying and/or contracting for a precise water contract at this time is impossible since densities, phasing, buildout and other factors are still unknown. The Board of Supervisors has determined that delaying the identification of a contract will not result in environmental impact because of the other measures adopted herein. Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. The following changes or alterations are required as part of, or incorporated into, the Project and will mitigate Project-specific water facility/service impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-2]

- Upon completion of the comprehensive master plan currently under preparation by the Otay Water District (OWD), the facilities proposed for the Otay Ranch Project shall be reviewed for conformance to this plan and current OWD standards, if the Project is ultimately annexed to OWD.

- Annexation of land to the appropriate water jurisdiction as necessary.

- Applicant shall prepare and submit for the appropriate jurisdiction(s) approval prior to the first SPA Plan, a Water Master Plan. The Water Master Plan shall include:

  - A Public Facilities Financing and Phasing Plan.

  - A Water Conservation Plan which shall include an analysis of water usage requirements as well as a detailed plan of proposed measures for water conservation. Measures shall include, but not be limited to, planting of drought tolerant vegetation for onsite landscaping and roadside maintenance; the use of irrigation systems which minimize runoff and evaporation loss; and the use of water conservation devices including low flush toilets, shower fixtures, and other amenities.

  - A Water Reclamation Plan which shall include a reclaimed water distribution system designed to meet appropriate engineering standards. The plan shall address, in detail, storage and conveyance, phasing, and financing. The construction of a dual piping system of water supply shall be required for all development where the use of reclaimed water will not jeopardize potable water supplies.

- A Reclaimed Water Uses and Restrictions Plan which shall be prepared by the Applicant in conformance with the Water Reclamation Plan and current engineering and health standards, prior to any SPA Plan adoption. These uses and restrictions shall be prepared in coordination with the appropriate agencies to promote the maximum use of reclaimed water allowed by law within the Project area.

The Water Master Plan will provide:

- Design criteria and assumptions, in accordance with the appropriate agency and regulatory authorities.

- Information on how the Project will satisfy MWD's Water Use Efficiency Guidelines.

- Location and size of facilities for onsite and offsite improvements.

- Operations and terminal storage.

The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall not be approved unless the Water Master Plan is accepted/approved by the appropriate jurisdiction(s).

- Written verification from the water district that water will be provided concurrent with need shall be required prior to tentative map approval.

The following mitigation measure is rejected as infeasible:

Environmental analysis and a decision by LAFCo on the water supply and the water supplier shall be made after the Sphere of Influence Study and prior to the approval of the first SPA. Additionally, a development agreement shall not be entered into without first identifying a water source. Finally, no financing entities shall be formed or revenue bonds sold prior to the identification of a water source and confirmation (i.e. a will serve letter) that such water source is available to supply the proposed development concurrent with the need for Otay Ranch.

Rationale: The rejected measure is infeasible because it outlines a cumbersome process that provides no further guarantees regarding the provision of water than the adopted measures. For example, the measure contemplates a separate process for LAFCo to identify a water source. However, such decisions must be made in the context of the Sphere of Influence Study which also requires environmental documentation. Additionally, the measure forbids the establishment of financing entities even though such entities may be necessary to secure or provide the water source. The Board of

Supervisors finds that the mitigation measures adopted herein reduce the impact below a level of significance and that the measures rejected as infeasible do nothing towards further reduction of the identified impact.

* * *

Wastewater and Sewer Service:

Significant Effect: Facilities to accommodate additional sewage flow and wastewater treatment would be required. [FPEIR, Volume 2, p. 4.9.14-2]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-related wastewater and sewer service impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-2 through p. 4.9.14-3]

- Prior to approval of any SPA Plan within Otay Ranch, it shall be determined which sewer district will serve the proposed SPA. The Project shall obtain written verification from the applicable sewer district that the tract or parcel will be provided adequate sewer service concurrent with need (a "will serve" letter). When applicable, the Project shall obtain written approval from the County Department of Health Services for private subsurface sewage disposal systems.

- Following the determination of which jurisdiction will provide sewer service to a proposed SPA and prior to approval of the first SPA, in Otay Ranch, the Applicant shall prepare and submit for the appropriate jurisdiction(s) approval, a Sewer Master Plan in conformance with the sewer engineering and facility siting standards of the appropriate jurisdictions for each SPA. The Sewer Master Plan may be phased and shall address, in detail, the following:

    - Location and size of facilities for onsite and offsite improvements in accordance with the appropriate agency and regulatory requirements.

    - A Public Facilities Financing and Phasing Plan. Phasing of facilities shall be consistent with the growth management provisions of the GDP Subregional Plan.

The Sewer Master Plan shall achieve:

- Design Criteria and Assumptions in accordance with the appropriate agency and regulating authorities.

The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall not be approved unless the Sewer Master Plan is accepted/approved by the appropriate jurisdiction(s).

A Sewer Master Plan shall be approved prior to the approval of each SPA Plan within Otay Ranch.

During the public hearings, several members of the public argued that sewer service should be prohibited in Central Proctor Valley and Planning Areas 16 and 19. This prohibition was rejected as infeasible by the Board because the use of septics in these areas has the potential to have an adverse impact on the City of San Diego's water supply, namely, Otay Lakes. When precise development plans are submitted for approval, the appropriate jurisdiction shall perform the necessary percolation test and/or other tests to determine whether or not sewer should be extended into these areas.

Additionally, the plan proposes to cluster development in an urban pattern in order to avoid sensitive resources. Such clustering may be conducive to provision of public sewers, particularly when balanced against the need to protect the City of San Diego's water source.

* * *

Integrated Waste Management:

Significant Effect: Project-generated solid waste would impact the landfill capacity in the region. [FPEIR, Volume 2, p. 4.9.14-3]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-related solid waste impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-3]

- The Applicant shall prepare and submit for the appropriate jurisdiction(s) approval prior to the first SPA Plan, and in coordination with the City of Chula Vista and the County of San Diego, an Integrated Waste Management Master

Plan. The Integrated Waste Management Master Plan shall identify and, if appropriate, reserve specific sites for integrated waste management facilities. Specific financing methods and timing of facility construction shall also be identified at this time. The Integrated Waste Management Master Plan will provide for participation in an integrated waste management program to include:

- Curbside recycling, neighborhood recycling/buyback centers, a material recovery facility (MRF), a composting facility, and a household hazardous waste collection facility.

The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall not be approved unless the Integrated Waste Management Master Plan is accepted/approved by the appropriate jurisdiction(s).

- Each SPA Plan shall include a condition requiring the Applicant to comply with City of Chula of Vista and County of San Diego programs and regulations concerning long-term solid waste capacity.

* * *

Police and Fire Protection, Emergency Medical Services:

Significant Effect: The Otay Ranch population would result in the need for additional staff and facilities to provide these services. [FPEIR, Volume 2, p. 4.9.14-3 through 4.9.14-4]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final EIR. Implementation of the following measures at the SPA level will mitigate Project-related impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-4]

- The Applicant shall prepare and submit for the appropriate jurisdiction(s) approval prior to the first SPA Plan, in close coordination with the appropriate service provider and based on the jurisdictional arrangements, a Law Enforcement Services Master Plan. The Law Enforcement Services Master Plan shall address city/county law enforcement standards the staff needs of the California Highway Patrol (CHP), and include:

- The types of facilities and equipment to be provided.

- Site and location criteria.

- Design techniques and guidelines to minimize crime.

- Funding mechanisms identified by the appropriate law enforcement agency and implementation method assured.

The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The Law Enforcement Services Master Plan shall assure the Project meets the following standards:

- Provide properly equipped and staffed law enforcement units to respond to 84 percent of "Priority One" emergency calls within 7 minutes and maintain an average response time of all "Priority One" emergency calls of 4.5 minutes or less. (Urban service)

- Provide properly equipped and staffed law enforcement units to respond to 62 percent of "Priority Two Urgent" calls within 7 minutes and maintain an average response time to all "Priority Two" calls of 7 minutes or less. (Urban service)

- Provide facilities for properly equipped and staffed law enforcement units to maintain an average response time for "Priority One" calls of 12 minutes, and 24 minutes for low priority calls. (Rural service)

The SPA Plan shall not be approved unless the Law Enforcement Services Master Plan is accepted/approved by the appropriate jurisdiction(s).

- Applicant shall prepare and submit for appropriate jurisdiction(s) approval prior to the first SPA Plan in close coordination with the appropriate service provider, a Fire Master Plan. The Fire Master Plan shall address:

  - Facilities requirements of the city and county including equipment needs.

  - Site selection criteria.

  - Specific site locations.

  - Funding mechanisms.

The Master Plan shall demonstrate that the proposed facilities shall enable the fire protection servers to achieve the urban and rural emergency response times established by the City of Chula Vista threshold and County of San Diego Public Facilities Element and include a Sprinkler Plan, an Emergency Disaster Plan, and a Brush Maintenance Plan. The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The Fire Master Plan shall assure the Project meets the following standards:

- Provide sufficient fire and emergency services facilities to respond to calls within the Otay Ranch urban communities: within a 7 minute response time in 85% of the cases; a 10 minute travel time in the Otay Ranch estate communities with lots averaging more than 2 acres (and attendant neighborhood serving commercial) and; a 20 minute travel time in the Otay Ranch rural communities with 4 acre lots or larger.

- Provide sufficient fire and emergency services facilities to respond to calls within: Otay Ranch single family communities with residential lots of less than two acres, or more intensive uses as multi-family residential, including industrial development and all commercial development except neighborhood commercial, in a 5 minute travel time; Otay Ranch single-family residential lots from two acres to four acres, including neighborhood commercial development, in a 10 minute travel time; and Otay Ranch large lot single-family residential and agricultural areas with lot sizes greater than four acres in a 20 minute travel time.

The SPA Plan shall not be approved unless the Fire Master Plan is accepted/approved by the appropriate jurisdiction(s).

- Applicant shall prepare and submit for appropriate jurisdiction(s) approval prior to the first SPA Plan in close coordination with the appropriate service provider, an Emergency Service Master Plan. The Emergency Service Master Plan shall address facilities requirements including facilities for hazardous materials incidents, service locations and funding mechanisms, and shall be approved by the appropriate fire protection district. The master plan shall demonstrate that a 10-minute emergency response time will be achieved by all new or upgraded facilities. The Emergency Service Master Plan shall provide:

  - Fire protection service facilities concurrent with need.

  - Emergency service facilities concurrent with need.

- SPA Plans shall include a Public Facilities Financing and Phasing Plan.

- Each SPA shall be required to meet the criteria of the approved master plan.

* * *

Schools

Significant Effect: The Otay Ranch student population would generate the need for additional schools. [FPEIR, Volume 2, p. 4.9.14-4 through p. 4.9.14-5]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid or substantially lessen the significant environmental effect as identified in the Final Program EIR. Implementation of the following measures at the SPA level will ensure that Project-related impacts to school services are mitigated to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-5]

- The Applicant shall prepare and submit for the appropriate jurisdiction(s) approval prior to the first SPA Plan, in close coordination with the affected school districts, a School Facilities Master Plan. The School Facilities Master Plan shall assure the availability of school service for the first development within Otay Ranch and shall provide a comprehensive framework for the provision of school service with implementation of the entire Otay Ranch development. The School Facilities Master Plan shall:

  - Demonstrate that a maximum capacity of 650 elementary students, 1,500 middle school students and 2,500 high school students will be achieved at each new school proposed in conjunction with Otay Ranch, in accordance with school district standards.

  - Identify the general locations of schools through the General Development Plan.

  The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall not be approved unless the School Facilities Master Plan is accepted/approved by the appropriate jurisdiction(s).

- Prior to SPA Plan approval, the Applicant shall provide documentation confirming school site locations and school district approval of the locations within that SPA. This approval shall entail site location, size, and configuration of schools, with provisions for access and pedestrian safety to the satisfaction of

the various school districts. Funding and phasing shall also be addressed and confirmed in accordance with school district procedures.

- SPA Plans shall include a Public Facilities Financing and Phasing Plan.

- Prior to SPA Plan approval, the Applicant shall provide documentation to the appropriate jurisdiction confirming school district satisfaction of facility funding to fully mitigate Otay Ranch student generation impacts to below a level of significance.

* * *

Library Service:

Significant Effect: Additional library facilities would be required to serve the Otay Ranch population. [FPEIR, Volume 2, p. 4.9.14-5]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the final EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-related impacts to library service to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-5]

- The Applicant shall prepare and submit for the appropriate jurisdiction(s) approval prior to the first SPA Plan, a Library Master Plan in accordance with the standards of the applicable jurisdiction. (See, for example the City of Chula Vista's Municipal Code section 19.09.040 (D).) The Library Master Plan shall address site location, size, and funding mechanisms. The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall be approved unless the Library Master Plan is accepted/approved by the appropriate jurisdiction(s).

- SPA Plans shall include a Public Facilities Financing and Phasing Plan.

* * *

Parks, Recreation, and Open Space:

Significant Effect: Otay Ranch would generate additional demand for regional and local parkland, open space, and recreational facilities. [FPEIR, Volume 2, p. 4.9.14-5 through p. 4.9.14-6]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the following measures at the SPA level will ensure mitigation of Project-related impacts regarding parks, recreation, and open space to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-6]

- Open space shall be provided in compliance with the following policies outlined in the Resource Management Plan (RMP) for Otay Ranch. The RMP provides for minimum standards to be achieved in the development of the Project.

- Within the RMP management preserve, permitted recreational uses shall be consistent with long-term protection and management of sensitive natural and man-made resources. A maximum of 400 acres within the preserve may be designated for active recreational purposes. A range of public access and regional recreational uses shall be provided within the management preserve. Permitted recreational uses within the preserve shall include the following, so long as they are designed in an environmentally-sensitive manner:

  - Walking and hiking trails throughout most of the preserve, linking with the county trails system.

  - Limited wilderness-type camping and picnic facilities in non-sensitive areas.

  - Equestrian trails in non-sensitive areas.

  - Bicycle trails in non-sensitive areas.

  - A native plant nursery and botanical garden.

  - Links-style golf course(s) in non-sensitive areas.

  A "Recreation Access Plan" shall be formulated during the Phase 2 RMP, when more information regarding population density, location and regional park concepts is available, to identify the types (hiking, bicycle, equestrian) and

locations of public trails to be provided within the management preserve. The required Access Plan shall address the following issues:

- Establishing linkages between preserve trails and community and regional trails systems, including regional park trails.

- Identifying trail access points to the management preserve consistent with resource protection goals.

- Establishing appropriate daily and seasonal limits on trail use.

- Assuring that the kind and intensity of trail uses is consistent with protection of resource areas being traversed.

- The Project must provide 15 acres of regional park and open space per 1,000 Otay Ranch residents, a minimum of 3 acres of neighborhood and community park land per 1,000 Otay Ranch residents and 12 acres of other active or passive recreation and open space per 1,000 Otay Ranch residents.

- Recreational facilities and open space shall be provided in accordance with the General Development Plan (GDP)/Subregional Plan and the General Plan Amendments.

- The Project SPA Plans shall further define the location, acreage, and boundaries of neighborhood and community parks and open space on the Otay Ranch property in a form and manner acceptable to the City of Chula Vista and the County of San Diego.

- The Applicant shall prepare and submit for appropriate jurisdiction(s) approval prior to approval of the first SPA Plan in accordance with the required parkland acreage standards of the appropriate jurisdiction(s), a Recreation Access Master Plan. The Recreation Access Master Plan shall address facilities requirements, site-selection criteria and specific park site locations, and funding mechanisms, and provide a bicycle and trails plan developed by the Project Applicant in conjunction with the Parks, Recreation, and Open Space Master Plan for Otay Ranch.

  The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall not be approved unless the Recreation Access Master Plan is accepted/approved by the appropriate jurisdiction(s).

- All SPA Plans shall include a Public Facilities Financing and Phasing Plan.

- The funding source for local parks shall be the Park Lands Dedication Ordinance (PLDO), or similar exaction authority. Should the PLDO be satisfied through the payment of fees, the park improvements shall be made by the jurisdiction or park district. If the PLDO is satisfied by land dedication, the Applicant shall provide turn-key facilities.

- The reconstruction of the State Department of Recreation's California Riding and Hiking Trail shall be implemented along with the attendant roadway improvements. If necessary, easement relocation within Otay Ranch shall occur at the Applicant's expense.

* * *

Electricity and Gas:

Significant Effect: Additional substations and associated distribution lines would be required to service the Project. [FPEIR, Volume 2, p. 4.9.14-6]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the following measures during Project development shall mitigate impacts to electric service to below a level of significance. The provision of gas facilities is not considered a significant impact.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-6]

- The Project Applicant shall work with SDG&E during all stages of electrical and gas facilities planning to minimize disturbance to sensitive resources.

- Land uses adjacent to the SDG&E transmission lines shall be subject to review and comment by SDG&E.

* * *

Health and Medical Services Facilities:

Significant Effect: Otay Ranch would generate the need for additional health and medical service facilities. [FPEIR, Volume 2, p. 4.9.14-7]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-specific impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-7]

- To ensure provision of and access to facilities which meet the health care needs of Otay Ranch residents, governmental agencies and development planners shall work directly with service providers to identify the need for and location of medical and health facilities in the Otay Ranch area during all stages of planning.

- Prior to SPA Plan approval, siting and design criteria shall be developed by the Project Applicant, in conjunction with the appropriate governmental agencies, to address public and private health and medical care facilities. Criteria should include, but not be limited to, consideration for impact of facility concentration on neighborhoods, access to transportation, and co-location of comparable programs where feasible.

* * *

Senior and Social Services:

Significant Effect: Otay Ranch would generate the need for additional senior and social service facilities. [FPEIR, Volume 2, p. 4.9.14-7 through p. 4.9.14-8]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-specific impacts to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-8]

- To ensure provision of and access to facilities which meet the senior and social service needs of Otay Ranch residents, governmental agencies and development planners shall work directly with service providers to identify the need for and location of senior and social service facilities in the Otay Ranch area.

- Prior to approval, SPA Plans shall be circulated by the Project Applicant to the Commission on Aging, Department of Social Services, Area Agency on Aging, Human Services Council and Chula Vista 21 for their review and input.

- Planning for social services for the residents of Otay Ranch shall incorporate the following considerations:

  - The elderly have special needs for affordable housing, transportation, and health care. The number of persons 65 years of age and older requiring long-term care will continue to increase significantly, and as family size also decreases, there will be less family-based support and increased reliance on outside services for the elderly.

  - The public sector and community-based organizations will need to deliver services in more culturally sensitive ways. Close collaboration with ethnic and cultural groups will be essential.

* * *

Child Care Facilities:

Significant Effect: Otay Ranch would generate the need for additional child care facility space. [FPEIR, Volume 2, p. 4.9.14-8]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-related child care impacts to below a level of significance.

Mitigation Measures: The following mitigation measure is feasible and is required as a condition of approval and is made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14]

- Applicant shall prepare and submit for appropriate jurisdiction(s) approval prior to the first SPA Plan, a Child Care Master Plan. The Child Care Master Plan shall address site-selection criteria and acreage requirements based on the child-care demand of the Project. The Child Care Master Plan shall require that Child care and pre-school facility sites shall be located adjacent to public and private schools, religious assembly uses, village center employment areas, transit centers and other locations deemed appropriate. The Master Plan shall be consistent with the GDP and implement all applicable mitigation measures and/or conditions of prior approval(s). The SPA Plan shall not be approved unless the Child Care Master Plan is accepted/approved by the appropriate jurisdiction(s).

* * *

Animal Control Facilities:

Significant Effect: Otay Ranch would generate the need for additional animal control facility space. [FPEIR, Volume 2, p. 4.9.14-9]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the following mitigation measures at the SPA level will mitigate Project-related animal control impacts to below a level of significance.

Mitigation Measures: The following mitigation measure is feasible and is required as a condition of approval and is made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.14-9]

- The Project Applicant shall participate in programs to equitably share the funding of animal control facilities and designate animal control facilities sufficient to provide adequate square footage of shelter space per Otay Ranch dwelling unit to the satisfaction of the appropriate jurisdiction.

N. RISK OF UPSET

Significant Effect: Increase in urbanization would result in an increase in the use, transport, storage, and disposal of hazardous materials and an associated increase in the risk of an upset condition in the area. [FPEIR, Volume 2, p. 4.9.15-1]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures identified below will mitigate impacts to below a level of significance. [FPEIR, Volume 2, p. 4.9.15-2]

Mitigation Measures: The following mitigation measures are feasible and are required as conditions of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 4.9.15-1]

- Soil and ground-water testing shall occur in the ranch operations center area potentially affected by the previous disposal of hazardous waste or historic pesticide use. The purpose of the testing shall be to identify areas of contamination in excess of federal and state standards. Should areas of excess contamination be identified, remediation shall occur prior to residential development.

- The Applicant shall notify prospective buyers and the California Department of Health Services (DHS), as required, regarding the Applicant's intention to develop the area adjacent to the Otay Landfill and the Appropriate Technologies II hazardous waste facilities.

- The U.S. Army or another appropriate entity shall conduct a survey of the Brown Field Bombing Range to identify the presence of any unexploded ammunition. Should unexploded ordnance be located on the property, appropriate measures shall be taken for removal of the material.

- The transport of hazardous waste by the Applicant, sub-contractors, and future businesses on existing and future roadways shall be conducted in accordance with the California Code of Regulations (CCR) and the Code of Federal Regulations (CFR). These regulations identify Department of Transportation (DOT) approved methods for packaging and containerizing hazardous waste and site appropriate options and procedures relative to the handling and transportation of these wastes.

- The need for emergency evacuation routes and other emergency facilities shall be determined at the SPA level if necessary based on the presence of onsite industrial uses as well as the presence of offsite industrial uses.

* * *

Significant effect: Direct and Indirect growth inducing impacts, in particular with regard to Jamul and the potential availability of sewer extensions.

Finding: The Project has the potential to induce growth, particularly in Jamul because of the potential availability of sewer service. This change is significantly adverse and unmitigable and remains significant. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines there are no feasible mitigation measures which would mitigate the impact. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

The following mitigation measure is rejected as infeasible:

- Preclusion of sewer service to Jamul Rural Planning Area 16.

Rationale: The decisionmakers have determined that the measure is infeasible because site specific tests regarding the feasibility of septic systems need to be completed prior to determining how to serve that area. Because the impact on water quality (if septic tanks were used) needs to be assessed at the SPA level, the decisionmakers need to maintain flexibility in determining which type of system to use. Additionally, the decisionmakers have determined to cluster housing in an urban manner in this Planning

Area in order to avoid impacts to open space. This urban village setting is potentially conducive to sewer expansion.

These findings discuss all impacts contained in the FPEIR and discussed at the numerous public hearings. However, to the extent that an impact or "alleged" impact of the Project either direct or secondary has not been discussed in this document, the Board hereby overrides such impact for the reasons described in the Statement of Overriding Considerations.

IX.
CUMULATIVE SIGNIFICANT EFFECTS AND MITIGATION MEASURES

Cumulative impacts are those which "are considered when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (Public Resources Code Section 21082.2 subd.(b)). Several development proposals have been submitted for consideration or have been recently approved by the cities of Chula Vista and San Diego and the County of San Diego in proximity to Otay Ranch. These "current or probable future" development proposals would affect many of the same natural resources and public infrastructure as Otay Ranch. Several potentially significant cumulative impacts are associated with development of Otay Ranch in conjunction with these surrounding development projects.

Although the EIR does not analyze the specific cumulative impacts associated with the Mitigated Phase II-Progress Plan, it does analyze a range of alternatives including the Phase I-Progress Plan which is comparable, but more impactive, than the Final Project. Since the Phase I-Progress Plan proposes more dwelling units and, thus, has relatively more significant environmental impacts than the Final Project, the analysis of the Phase I-Progress Plan plus reasonably related current and probable future projects provides a reasonable basis upon which to analyze cumulative impacts.

In formulating mitigation measures for the Project, regional issues and cumulative impacts have been taken into consideration. Many of the mitigation measures adopted for the cumulative impacts are similar to the Project level mitigation measures. This reflects the inability of the Lead Agency to impose mitigation measures on surrounding jurisdictions (i.e., City of San Diego, City of National City and Mexico) and the contribution of these jurisdictions to cumulative impacts.

The Final Project along with the other related projects will result in the following irreversible cumulative environmental changes. All page numbers following the impacts refer to pages from the Final Program EIR.

Land Use, Planning, and Zoning

The cumulative loss of over 32,000 acres of open space and agricultural land. [FPEIR, Volume 2, p. 6-9]

Potential land use incompatibilities between Otay Ranch and the alternate county landfill sites. [FPEIR, Volume 2, p. 6-9]

Landform Alteration/Aesthetics

Change in character from rural to urban development. [FPEIR, Volume 2, p. 6-13]

Overall landform alteration, creation of manufactured slopes, and grading of steep slopes. [FPEIR, Volume 2, p. 6-13]

The cumulative effects of night lighting. [FPEIR, Volume 2, p. 6-13]

Biological Resources

Significant decrease in key biological resources in southwestern San Diego County. [FPEIR, Volume 2, p. 6-13]

Cultural Resources

The loss of approximately 75 percent of the known cultural resource sites in the combined cumulative study area. [FPEIR, Volume 2, p. 6-26 through 6-29]

Geology and Soils

An increase in population and property that would be exposed to the effects of seismic ground shaking from local active faults, such as the Rose Canyon and Coronado Bank faults. [FPEIR, Volume 2, p. 6-30]

Paleontology

Increased probability of disturbance to significant paleontological resources. [FPEIR, Volume 2, p. 6-31]

Agricultural Resources

Loss of prime farmland and grazing land. [FPEIR, Volume 2, p. 6-35]

Mineral Resources

Loss of aggregate mineral resources. [FPEIR, Volume 2, p. 6-36]

Water Resources and Water Quality

Degradation of water quality and a reduction in ground-water basin recharge. [FPEIR, Volume 2, p. 6-38]

Transportation, Circulation, and Access

Impacts on short-term and long-term traffic operations. [FPEIR, Volume 2, p. 6-41]

Air Quality

Stationary and vehicular emissions would aggravate the San Diego Air Basin's current inability to attain state and federal air quality standards. [FPEIR, Volume 2, p. 6-41 through 6-42]

Noise

Exposure of residential and other noise sensitive land uses to vehicular noise levels exceeding prevailing and local noise standards. [FPEIR, Volume 2, p. 6-43]

Public Services and Facilities

Water Availability and Demand: Availability of water to serve region. [FPEIR, Volume 2, p. 6-45]

Wastewater and Sewer Service: Increased flow generation. [FPEIR, Volume 2, p. 6-46]

Integrated Waste Management: Declining landfill capacity in the region. [FPEIR, Volume 2, p. 6-47]

Police and Fire Protection and Emergency Medical Services: Need for additional facilities to provide services. [FPEIR, Volume 2, p. 6-48]

Schools: Projects would generate the need for additional schools. [FPEIR, Volume 2, p. 6-49]

Library Service: Additional library facilities and books would be required to serve the cumulative impact area. [FPEIR, Volume 2, p. 6-50]

Parks, Recreation, and Open Space: Additional regional and local parkland, open space, and recreational facilities would be required to serve the cumulative impact

area. Significant cumulative impacts would also occur to waterfowl hunting in the area. [FPEIR, Volume 2, p. 6-51]

Electricity and Gas: Additional substations and associated distribution lines would be required to serve the cumulative impact area. [FPEIR, Volume 2, p. 6-52]

Other Public Services: An increased demand for health and medical facilities, senior and social services, cemetery facilities, child care facilities, and animal control facilities in the cumulative impact area. [FPEIR, Volume 2, p. 6-53]

Risk of Upset

The potential risk of adverse health effects associated with the use, transport, and storage of hazardous materials and generation of hazardous waste would increase. [FPEIR, Volume 2, p. 6-54]

Certain of the above cumulative impacts cannot be substantially lessened or avoided. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that these cumulative impacts have been reduced to an acceptable level then accepted because of specific overriding considerations. Alternatively, as mentioned previously, in every instance the ability to reduce cumulative impacts requires cooperation by numerous jurisdictions. Consequently, the City/County determines that "such changes and alterations are within the responsibility and jurisdiction of another agency." CEQA Guidelines Section 15091 (a) (2). The below sub-sections define each of the above-described cumulative impact issues, setting forth either the reasons why they are significant and unavoidable, the mitigation measures adopted to substantially lessen or avoid them, or the reasons proposed mitigation measures are infeasible due to specific, economic, social or other considerations.

A. LAND USE, PLANNING, AND ZONING

Significant Cumulative Effect: The cumulative loss of over 32,000 acres of open space and agricultural land. [FPEIR, Volume 2, p. 6-9]

Finding: Cumulative development in the Otay Ranch impact area will result in a significant loss of open space and agricultural land with or without Otay Ranch. This impact, therefore, is considered significant and unmitigable. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

* * *

Significant Cumulative Effect: Potential land use incompatibilities between Otay Ranch and the alternate county landfill sites. [FPEIR, Volume 2, p. 6-9]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. However, since a site is yet to be selected, land use interface impacts are unknown and thus remain potentially significant. Pursuant to section 15091 (a) (3), as described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation: The following mitigation measure is feasible and is required as a condition of approval and is binding on the Applicant through these Findings.

> The SPA plans developed for the areas of the Otay River parcel adjacent to any of the alternate San Diego County landfill sites shall contain landscaping and buffering standards designed to prevent land use interface impacts such as health hazards, noise, lighting, and loss of privacy between Otay Ranch and these adjacent land uses. The SPA plans shall be reviewed by the City of Chula Vista City Council and the County of San Diego Board of Supervisors to ensure that proposed standards are adequate to prevent significant interface impacts from occurring. [FPEIR, Volume 2, p. 6-10]

B. <u>LANDFORM ALTERATION/AESTHETICS</u>

Significant Cumulative Effect: Change in character from rural to urban development. [FPEIR, Volume 2, p. 6-13]

Finding: This impact is considered unmitigable. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

* * *

Significant Cumulative Effect: Overall landform alteration, creation of manufactured slopes, and grading of steep slopes. [FPEIR, Volume 2, p. 6-13]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the Project's contribution to the significant environmental effect as identified in the Final EIR. Cumulative impacts of the other projects are substantially lessened through similar measures as well as through enforcement of the County's I-73, Hillside

Development Policy, Policy 15.K.7 of the Jamul/Dulzura Subregional Plan, the City of Chula Vista's Hillside Modifying District Ordinance and other regulations and policies of Chula Vista's General Plan Land Use Element, and the City of San Diego's Hillside Review Overlay Zone. In spite of these regulations and site-specific design and grading measures, cumulative impacts to landform alteration and aesthetics are considered significant and only partially mitigable. This impact, therefore, is considered unmitigable and significant. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no other feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measure is feasible and is required as a condition of approval and is made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-13]

- Applicant shall implement the measures contained in Section VII of this document (for example, the use of contour grading, the implementation of design guidelines, and the incorporation of planned open space) would reduce Otay Ranch's contribution to cumulative impacts.

* * *

Significant Cumulative Effect: The cumulative effects of night lighting. [FPEIR, Volume 2, p. 6-13]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measure is feasible and is required as a condition of approval and is made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-13]

- Compliance with the San Diego County Code Sections 59.101-115 (the County Dark Sky Ordinance). Compliance will be required even if an SPA is being developed under the jurisdiction of the City of Chula Vista.

C. BIOLOGICAL RESOURCES

Significant Cumulative Effects: Significantly decrease key biological resources in southwestern San Diego County. [FPEIR, Volume 2, p. 6-17]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. The Project mitigates effects to key resources through design features; however, not to a level below significance. The cumulative reduction of the sensitive coastal sage scrub habitat mosaic which supports California gnatcatcher, cactus wren, Otay tarplant, and vernal pool habitat within the boundaries of the Final Project is unmitigable due to the magnitude of the effect. This impact, therefore, remains significant. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no other feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-18]

- The cumulative effects shall be mitigated through a combination of measures which ultimately concentrate on protecting the key resource areas and tying these areas together onsite and with adjacent offsite areas to create a viable regional open space preserve (see Section VIII of the EIR). The key component of this mitigation is the Resource Management Plan (RMP) which establishes minimum standards to be achieved with the development of the Project.

- Sensitive habitats on Otay Ranch shall be restored or preserved to provide mitigation for both the loss of habitat and sensitive species due to development of the property. Restoration of disturbed habitats will increase the resource value of the habitat, as well as potentially provide links to key resource areas on both local and regional levels. Habitat restoration in areas that connect two or more otherwise isolated key resource areas will allow migration between subpopulations resulting in more viable populations.

- Restoration of habitat in highly biodiverse areas can play an important role in effectively increasing the population size of sensitive species. Disturbed portions of the Otay River Valley will be restored back to an intact riparian habitat, which will allow for an increase in the number of least Bell's vireo breeding pairs that will utilize the expanded habitat. Restoration of Diegan coastal sage scrub habitats will potentially contribute to the maintenance of the California gnatcatcher population on Otay Ranch, and disturbed coastal sage scrub habitat adjacent to areas currently utilized by cactus wren could be restored with maritime succulent scrub in order for the cactus wren population to expand.

During the administrative hearings it was recommended by the public and various resource agencies that adoption of the Project be delayed until adoption of an MSCP or

NCCP. Such a measure is infeasible because there is no certainty regarding the timeline for adoption of such a plan. In fact, the environmental review for the NCCP/MSCP has only just begun on the proposed Project and the estimates for completion of the NCCP or MSCP range from 2-4 years. The Otay Ranch Project has been in the processing pipeline for over three years. There is a demand in the South County for a wide variety of housing types; the Project intends to assist in meeting that demand. It would be infeasible for economic and planning reasons to delay approval of the Project until adoption of the MSCP/NCCP.

D. CULTURAL RESOURCES

Significant Cumulative Effect: The loss of approximately 75 percent of the known cultural resource sites in the combined cumulative study area. [FPEIR, Volume 2, p. 6-26 through 6-29]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-29 through 6-30]

- A regional preservation plan with specific cultural resource preservation goals shall be established to determine what kind of database the managing agencies desire to retain after the region as a whole has been developed. Once a plan and goals have been established, a specific resource preservation plan developed by the Applicant for the Otay Ranch that focuses on database diversity in terms of values shall be established and implemented specifically for the Otay Ranch Project. This plan shall conform to regional preservation goals, establish realistic preservation measures that address secondary impacts and long term preservation and access to the database.

- A regional repository shall be established and cultural material from the Project and the region shall be preserved in this repository. Furthermore, funding for its long-term preservation shall be secured to ensure preservation of the resources; the Applicant shall pay a fair share.

E. GEOLOGY AND SOILS

Significant Cumulative Effect: An increase in population and property that would be exposed to the effects of seismic ground shaking from local active faults, such as the Rose Canyon and Coronado Bank faults. [FPEIR, Volume 2, p. 6-30]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the proposed mitigation measures presented in Section 3.5.3 of the Final Program EIR would mitigate cumulative impacts of seismic shaking, geologic hazards and soil conditions to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-31]

- Cumulative impacts related to seismic ground shaking shall be avoided by designing and constructing proposed projects in accordance with the Uniform Building Code (UBC), state-of-the-art seismic design parameters of the Structural Engineering Association of California (SEAOC), and applicable local building codes as required by local agencies. No additional measures are necessary for seismic effects.

- All significant cumulative geologic and soil impacts shall be mitigated through appropriate site-specific investigations and implementation of standard construction and design methods as described in Section VIII of the FPEIR

F. PALEONTOLOGY

Significant Cumulative Effect: Increased probability of disturbance to significant paleontological resources. [FPEIR, Volume 2, p. 6-31]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the proposed mitigation measures presented in Section 3.6.3 of the Final Program EIR for all developments in the cumulative impact area would mitigate cumulative impacts to below a level of significance.

Mitigation Measures: The mitigation measures outlined in Section VIII of the FPEIR are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-32]

G. AGRICULTURAL RESOURCES

Significant Cumulative Effect: Loss of prime farmland and grazing land. [FPEIR, Volume 2, p. 6-35]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. The impacts, however, still remain significant. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The mitigation measures outlined in Section VIII of the FPEIR are to be feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-31]

H. MINERAL RESOURCES

Significant Cumulative Effect: Loss of aggregate mineral resources. [FPEIR, Volume 2, p. 6-35 through 6-36]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. The phasing of development of the San Ysidro and Proctor Valley parcels to allow for the extraction of mineral resources before construction would effectively mitigate impacts to mineral resources. However, should this not be feasible the cumulative impact to mineral resources would be significant and unmitigable. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no other feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-37]

- Project phasing in the San Ysidro and Proctor Valley parcels shall allow for mineral extraction before conflicting development occurs, if feasible.

- Compatible land uses shall be developed in areas where mineral extraction would likely occur.

I. WATER RESOURCES AND WATER QUALITY

Significant Cumulative Effect: Degradation of water quality and a reduction in ground-water basin recharge. [FPEIR, Volume 2, p. 6-38]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-40]

Additional surface water modeling shall be required upon preparation of a final design plan at the SPA level. The standards identified in Section VII of the FPEIR shall be met. This modeling shall analyze:

- Location and number of detention basins necessary to control the peak discharge at an acceptable level;

- Peak discharge values at specific locations important to the structural design of bridges, etc.; and

- Total volume of surface water discharge during a design storm.

J. TRANSPORTATION, CIRCULATION, AND ACCESS

Significant Cumulative Effect: Impacts on short-term and long-term traffic operations. [FPEIR, p. 6-40]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. Impacts, however, will remain significant after implementation of the mitigation measures. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measure is feasible and is required as a condition of approval and is made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-41]

- Projects in the region will be required to construct appropriate improvements and contribute their proportionate share towards construction of regional facilities.

K. AIR QUALITY

Significant Cumulative Effect: Stationary and vehicular emissions would aggravate the San Diego Air Basin's current inability to attain state and federal air quality standards. [FPEIR, Volume 2, p. 6-41 through 6-42]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations have been required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final EIR. These measures, however, will not reduce impacts below a level of significance. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, however, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-43]

- The cumulatively significant degradation of regional air quality can be mitigated but not below a level of significance by implementing public transit and trip reduction programs onsite and by requiring housing and building designs that minimize air pollutant emissions. It is a policy of the County to require applicants to participate in the strategies listed above. The Lead Agency has required Applicants within the Otay parcel to contribute their fair share to LRT.

- Project-specific and regional measures as discussed in Section VII of the FPEIR are required.

L. NOISE

Significant Cumulative Effect: Exposure or residential and other noise sensitive land uses to vehicular noise levels exceeding local noise standards. [FPEIR, Volume 2, p. 6-43]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will substantially lessen the significant environmental effect as identified in the Final Program EIR. Impacts, however, may not be reduced to a level below significance. Pursuant to Section 15091 (a) (3) of the State CEQA Guidelines, there are no feasible measures that would mitigate the impact below a level of significance. As described in the Statement of Overriding Considerations, the Board of Supervisors has determined that this impact is acceptable because of specific overriding considerations.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-43]

- Future acoustical studies shall be required for residences and other noise sensitive land uses exposed to exterior noise levels of 60 CNEL or greater for all projects within the jurisdiction of the agency.

- Future acoustical studies shall be required for Least Bell's Vireo habitat and California Gnatcatcher habitat exposed to noise levels of 60 DBA L_{eq} or greater for all projects within the jurisdiction of the agency.

- Noise attenuation techniques, such as construction of walls and/or earthen berms between sensitive uses and significant noise sources shall be required to achieve standards as discussed in Section VIII of the FPEIR.

M. PUBLIC SERVICES AND FACILITIES

Water Availability and Supply

Significant Cumulative Effect: Availability of water to serve region. [FPEIR, Volume 2, p. 6-45]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that potentially significant cumulative impacts to water availability and demand are mitigated to below a level of significance through the implementation of site-specific improvements as identified by future studies. If it is determined that adequate water supply is not available at the time of individual SPA Plan review, the Project will not proceed.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-45]

- Mitigation measures shall include the preparation of water facilities studies and financing plans to identify specific impacts on the water supply system to determine the significance of those impacts on water facilities, and to identify measures that would reduce or eliminate the effects. These studies and plans shall include an analysis of the cumulative water demand and survey of the water necessary to serve existing, proposed, and approved projects within each service zone.

- Each Applicant shall be required to construct Project-specific improvements and to construct, or contribute toward the cost of constructing, any regional facilities required by the study with respect to the cumulative water demand as a result of new development.

* * *

Wastewater and Sewer Service

Significant Cumulative Effect: Increased flow generation. [FPEIR, Volume 2, p. 6-46]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that adequate measures are identified during site-specific analyses that will mitigate potentially significant cumulative impacts with respect to wastewater and sewer service to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these findings. [FPEIR, Volume 2, p. 6-46]

- Each Applicant shall prepare and obtain appropriate jurisdiction approval of sewer basin studies and financing plans in order to identify specific impacts, to determine the significance of the effect, and to identify measures that would reduce or eliminate the effect upon the sewerage system. These studies and plans shall include an analysis of the cumulative sewage flow to be generated by existing, proposed, and approved projects within each basin.

- Each Applicant shall be required to construct Project-specific improvements and to construct, or contribute toward the cost of constructing, any regional facilities required by the study for wastewater conveyance, treatment, and disposal in proportion to the flows contributed by each development with respect to the cumulative flows from the new developments.

* * *

Integrated Waste Management

Significant Cumulative Effect: Declining landfill capacity in the region. [FPEIR, Volume 2, p. 6-47]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the

significant environmental effect as identified in the Final Program EIR. Implementation of the measure described below shall ensure that adequate measures are identified during site-specific analyses that will mitigate potentially significant cumulative impacts with respect to solid waste management and disposal to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-47]

- Each Applicant shall prepare and obtain appropriate jurisdiction approval of solid waste facilities studies and financing plans to identify specific impacts, to determine the significance of the effect, and to identify measures that would reduce or eliminate the effect on the integrated waste management system, such as recycling facilities and landfill capacity. These studies shall include an analysis of the cumulative solid waste generation as a result of existing, proposed and approved projects.

- Each Applicant shall be required to construct Project-specific improvements and contribute towards the cost of constructing, any regional facilities required by the study with respect to the cumulative solid waste generation as a result of new development.

* * *

Police and Fire Protection and Emergency Medical Services:

Significant Cumulative Effect: Need for additional facilities to provide services. [FPEIR, Volume 2, p. 6-48]

Finding: Pursuant to Section 15091 (a) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that adequate measures are identified during site-specific analyses that will mitigate potentially significant cumulative impacts on police and fire protection, and emergency medical services to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on Applicant through these findings. [FPEIR, Volume 2, p. 6-48]

- Each Applicant for a discretionary project shall prepare and obtain the appropriate jurisdiction's approval of police protection, fire protection, and emergency service facilities. Studies and financing plans to identify specific impacts, to determine

the significance of the effect, and to identify measures that would reduce or eliminate the effect on police protection, fire protection, and emergency services shall be prepared if appropriate. These studies shall include an analysis of the cumulative demand for these services as a result of existing, proposed and approved projects.

- Each Applicant shall be required to construct Project specific improvements and to construct, or contribute towards the cost of constructing, any regional facilities required by the study with respect to the cumulative demand for police protection, fire protection, and emergency service as a result of new development.

* * *

Schools:

Significant Cumulative Effect: Projects would generate the need for additional schools. [FPEIR, Volume 2, p. 6-49]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that adequate measures are identified during site-specific analyses that will mitigate potentially significant cumulative impacts with respect to schools to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-49]

- Each Applicant shall prepare and obtain appropriate jurisdiction approval of school facilities studies and financing plans to identify specific impacts, to determine the significance of the effect, and to identify measures that would reduce or eliminate the effect on schools. These studies shall include an analysis of the cumulative demand for school facilities as a result of existing, proposed and approved projects.

- Each Applicant shall be required to construct Project specific improvements and to construct, or contribute towards the cost of constructing, any regional facilities required by the study with respect to the cumulative demand for school facilities as a result of new development.

* * *

Library Service:

Significant Cumulative Effect: Additional library facilities and books would be required. [FPEIR, Volume 2, p. 6-50]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that adequate measures are identified during site-specific analyses that will mitigate potentially significant cumulative impacts with respect to library service to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-50 through 6-51]

- Each Applicant shall prepare and obtain appropriate jurisdiction approval of library facilities studies and financing plans to identify specific impacts, to determine the significance of the effect, and to identify measures that would reduce or eliminate the effect on libraries. These studies shall include an analysis of the cumulative demand for library facilities as a result of existing, proposed, and approved projects.

- Each Applicant shall be required to construct Project specific improvements and to construct, or contribute towards the cost of constructing, any regional facilities required by the study with respect to the cumulative demand for library facilities as a result of new development.

* * *

Parks, Recreation, and Open Space:

Significant Cumulative Effect: Additional regional and local parkland, open space, and recreational facilities would be required to serve the cumulative impact area. Significant cumulative impacts would also occur to waterfowl hunting in the area. [FPEIR, Volume 2, p. 6-51]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that adequate measures are identified during site-specific analyses that will mitigate potentially significant cumulative impacts with respect to the provision of parks, recreation, and open space to below a level of significance.

Mitigation Measures: The following mitigation measure is feasible and is required as a a condition of approval and is made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-52]

- Each Applicant shall prepare and obtain appropriate jurisdiction approval of the park, recreation, and open space studies and financing plans to identify specific impacts, to determine the significance of the effect, and to identify measures that would reduce or eliminate the effect on these services. The establishment of the management preserve through the RMP, construction of the various community and neighborhood parks, and installation of the regional bike, equestrian, and hiking trail network would serve the needs of Otay Ranch, and also provide for recreation opportunities for the entire region.

* * *

Electricity and Gas:

Significant Cumulative Effect: Additional substations and associated distribution lines would be required to serve the cumulative impact area. [FPEIR, Volume 2, p. 6-52]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-53]

- The Project Applicant shall work with SDG&E during all stages of electrical and gas facilities planning to minimize the disturbance to sensitive resources.

- Land uses adjacent to the SDG&E transmission lines shall be subject to review and comment by SDG&E.

* * *

Other Public Services:

Significant Cumulative Effect: An increased demand for health and medical facilities, senior and social services, cemetery facilities, child care facilities, and animal control facilities in the cumulative impact area. [FPEIR, Volume 2, p. 6-53]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the

significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below shall ensure that potentially significant cumulative impacts with respect to the provision of health and medical and senior and social services, cemetery, child care and animal control facilities are mitigated to below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-54]

- The Applicant shall work in close coordination with the relevant service providers and the appropriate jurisdictions to ensure the provision of adequate facilities.

* * *

N. RISK OF UPSET

Significant Cumulative Effect: The potential risk of adverse health effects associated with the use, transport, and storage of hazardous materials and generation of hazardous waste would increase. [FPEIR, Volume 2, p. 6-54]

Finding: Pursuant to Section 15091 (a) (1) of the State CEQA Guidelines, changes or alterations are required in, or incorporated into, the Project which will avoid the significant environmental effect as identified in the Final Program EIR. Implementation of the measures described below in addition to adherence with applicable laws and regulations would mitigate significant impacts below a level of significance.

Mitigation Measures: The following mitigation measures are feasible and are required as a condition of approval and are made binding on the Applicant through these Findings. [FPEIR, Volume 2, p. 6-54]

- The mitigation measures identified in Section VIII would reduce the risk of upset associated with the development of Otay Ranch. Application of these measures to the other projects in the area would reduce the cumulative risk of adverse public health effects associated with the use, storage, and transport of hazardous materials to below a level of significance.

X.
FEASIBILITY OF POTENTIAL PROJECT ALTERNATIVES

Because the Project will cause some unavoidable significant environmental effects, as outlined above (see Section VIII), the City/County must consider the feasibility of any environmentally superior alternative to the Project, as finally approved. The County must evaluate whether one

or more of these alternatives could avoid or substantially lessen the unavoidable significant environmental effects. Citizens for Quality Growth v. City of Mount Shasta (1988) 198 Cal. App.3d 433 [243 Cal. Rptr. 727]; see also Pub. Resources Code section 21002. Because it is a judgment call whether an alternative is environmentally superior (i.e., one alternative preserves more sensitive biological areas and another creates the density necessary to support LRT) these findings contrast and compare all of the alternatives analyzed in the FPEIR.

In general, in preparing and adopting findings a lead agency need not necessarily address the feasibility of both mitigation measures and environmentally superior alternatives when contemplating the approval of a Project with significant impacts. Where the significant impacts can be mitigated to an acceptable (insignificant) level solely by the adoption of mitigation measures, the agency, in drafting its findings, has no obligation to consider the feasibility of environmentally superior alternatives, even if their impacts would be less severe than those of the Project as mitigated. Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal.3d 376 [253 Cal. Rptr. 426]; Laurel Hills Homeowners Association v. City Council (1978) 83 Cal.App.3d 515 [147 Cal. Rptr. 842] see also Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692 [270 Cal. Rptr. 650]. Accordingly, for this Project, in adopting the findings concerning Project alternatives, the Board of Supervisors considers only those environmental impacts that, for the finally approved Project, are significant and cannot be avoided or substantially lessened through mitigation.

Where, as in this Project, significant environmental effects remain even after application of all feasible mitigation measures identified in the Final Program EIR, the decisionmakers must evaluate the Project alternatives identified in the Final Program EIR. Under these circumstances, CEQA requires findings on the feasibility of Project alternatives. "Feasible" means capable of being accomplished in a successful manner within a reasonable time, taking economic, environmental, legal, social and technological factors into account. (CEQA Guidelines section 15364)

If no Project alternatives are feasible, the decisionmakers must adopt a Statement of Overriding Considerations with regard to the Project. If there is a feasible alternative to the Project, the decisionmakers must decide whether it is environmentally superior to the Project. Proposed Project alternatives considered must be ones which "could feasibly attain the basic objectives of the Project." However, the Guidelines also require an EIR to examine alternatives "capable of eliminating" environmental effects even if these alternatives "would impede to some degree the attainment of the project objectives." [CEQA Guidelines section 15126 subd.(d)])

The City has properly considered and reasonably rejected project alternatives as "infeasible" pursuant to CEQA.

CEQA provides the following definition of the term "feasible" as it applies to the findings requirement: "'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." Pub. Resources Code, § 21061.1. The CEQA Guidelines provide a

broader definition of "feasibility" that also encompasses "legal" factors. CEQA Guidelines, § 15364 ("The lack of legal powers of an agency to use in imposing an alternative or mitigation measure may be as great a limitation as any economic, environmental, social, or technological factor.").

Accordingly, "feasibility" is a term of art under CEQA and thus may not be afforded a different meaning as may be provided by Webster's Dictionary or any other sources.

Moreover, Public Resources Code section 2081 governs the "findings" requirement under CEQA with regard to the feasibility of alternatives. This provision was recently amended by SB 919. Public Resources Code section 2081, as amended, in pertinent part, now states:

> ". . . [N]o public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless the public agency makes one or more of the following findings:
>
> (c) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report."

SB 919 (amending Pub. Resources Code, § 2081, subd. (c)).SB 919 (amending Pub. Resources Code, § 2081, subd. (c)). This amendment expanded the bases upon which an agency may find mitigation measures or alternatives to be infeasible by adding "legal," "technological," and "employment for highly trained workers" considerations.

The concept of "feasibility," therefore, as it applies to findings, involves a balancing of various economic, environmental, social, legal, and technological factors. See Pub. Resources Code, § 21061.1; CEQA Guidelines, § 15364; SB 919 (amending Pub. Resources Code, § 2081, subd. (c)).SB 919 (amending Pub. Resources Code, § 2081, subd. (c)); see also City of Del Mar v. City of San Diego (1992) 133 Cal.App.3d 401, 414-417.

In City of Del Mar v. City of San Diego (1992) 133 Cal.App.3d 401, 415-417, the Court of Appeal found that the City of San Diego had ". . . considered and reasonably rejected . . . [certain] project alternatives . . . as infeasible in view of the social and economic realities in the region." Id. at 417. The court determined that San Diego had attempted to accommodate the feasibility factors based upon its growth management plan which included the proposed development project. Accordingly, the court concluded:

> "Assuming this accommodation is a reasonable one (citation omitted), San Diego is entitled to rely on it in evaluating various project alternatives. The cost-benefit analysis which led to the accommodation is of course subject to review, but it

need not be mechanically stated at each stage of the approval process. In this sense, 'feasibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors. We accordingly conclude that San Diego did not abuse its discretion under CEQA in rejecting various project alternatives as infeasible."

Id. (emphasis added).

These Findings contrast and compare the alternatives where appropriate in order to demonstrate that the selection of the finally approved Project, while still resulting in significant environmental impacts, has substantial environmental, planning, fiscal and other benefits. In rejecting certain alternatives, the decisionmakers have examined the finally approved Project objectives and weighed the ability of the various alternatives to meet the objectives. The decisionmakers believe that the Project best meets the finally approved Project objectives with the least environmental impact. The objectives considered by the decisionmakers are:

- A new community through long-range planning, coordination, and development of Otay Ranch;
- A balanced housing mix to address the local and regional housing demand;
- Housing in proximity to employment centers;
- A plan for open space and regional and community parks;
- A program for the long-term comprehensive management and protection of natural resources;
- A four-year university;
- A range of commercial and business uses to complement existing commercial centers in the area; provide such uses to establish a connection between Otay Mesa and the United States/Mexican border and to the City of Chula Vista and the San Diego metropolitan area; (FPEIR, Volume 2, p. 201)

The Final Program EIR for the Project examined a broad range of reasonable on site and off site alternatives to the Project to determine whether it could meet the Project's objectives while avoiding or substantially lessening one or more of the Project's significant, unavoidable impacts.

These Findings examine each alternative to determine feasibility. The term feasible is defined in the CEQA Guidelines as "capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, environmental, legal, social and technological factors." (CEQA Guidelines section 15364)

A. PHASE I-PROGRESS PLAN ALTERNATIVE

Under the Phase I-Progress Plan Alternative, a maximum of 29,773 residential dwelling units would be constructed on 8,250 acres of land within the 23,088-acre site. Adoption and implementation of this alternative would result in approximately 86,456 new residents in the Project area. Approximately 54 percent of the housing proposed under this alternative would be single-family residences, while the remainder would be multi-family attached units.

The Phase I-Progress Plan Alternative includes a Preserve smaller in size than the Preserve proposed for the finally approved Project. Additionally, the finally approved Project protects more sensitive species and sensitive habitat, in particular in Poggi Canyon and Salt Creek Canyon and south of the lake, than the Phase I-Progress Plan Alternative. The Project is more compatible with the Otay Landfill Annex and the Nelson and Sloan Quarry because there is a greater buffer proposed in the finally approved Project.

With regard to landform alteration and aesthetics, the Phase I-Progress Plan Alternative has a greater impact on slopes and ridges.

With regard to biological resources, the Phase I-Progress Plan has greater impacts in the following areas:

- Coastal sage scrub
- Maritime Succulents
- Needlegrass grassland
- Wetlands
- Vernal Pools
- A number of high priority plant species
- A number of second priority plant species
- A number of third and a number of fourth priority plant species
- Coastal cactus wren habitat
- Gnatcatcher habitat (in particular, Salt Creek, Wolf Canyon and Poggi Canyon)
- Impacts to the Riverside Fairy Shrimp and San Diego vernal pool fairy shrimp
- Harbison's dun skipper
- Herme's copper
- Thornes hairstreak
- Quino checkerspot
- A number of second priority animal species

The Phase I-Progress Plan significantly impacts regional wildlife corridors by significantly constraining movement within those corridors.

In comparison with the Phase I-Progress Plan, the finally approved Project contains more provisions for intersection improvements to assist in the movement of traffic and requires certain levels of service to be met on all circulation element roads. With regard to transit, the finally approved Project restricts development beyond 15,000 units, or 4,000,000 square feet of commercial, until the funding and construction is assured for LRT.

The Board of Supervisors therefore finds that because of the above described significant unmitigable impacts the finally approved Project is environmentally superior to the Phase I-Progress Plan.

B. PHASE II-PROGRESS PLAN

Under the Phase II-Progress Plan Alternative, a maximum of 29,908 dwelling units would be constructed, resulting in a potential population of approximately 83,980. The Phase II-Progress Plan falls between the Phase I-Progress Plan Alternative and the Fourth Alternative in terms of developed area. Residential uses would be located on 8,038 acres, approximately 55 percent of the total being detached homes. Land uses would generally be arranged in villages, with most of the proposed homes (23,913 residences) located in the 12 villages located on the Otay River parcel. The Proctor Valley parcel would feature two villages, while San Ysidro would be developed with one village. Rural estate development is also planned for the eastern parcels.

In the Final Project, the following changes were made to the Phase II-Progress Plan Alternative:

- The Preserve was expanded to protect more sensitive species and more sensitive habitats, particularly in Poggi Canyon and Salt Creek Canyon.

- Larger buffers were added to allow continued operation of the Landfill and Nelson and Sloan Quarry.

- Development was eliminated from many, but not all, ridges and slopes. The Project contains a condition that not more than 17 percent of steep slopes be developed.

- Wildlife corridors were significantly improved by eliminating development constraints to wildlife movements.

- Additional intersection improvements were incorporated to assure that transportation level of service standards are met.

- Development cannot occur unless precise levels of service are met on circulation element roads.

- Development beyond 15,000 dwelling units, or 4,000,000 square feet of commercial, is restricted until funding of construction is assured for the LRT.

- Construction of Alta Road across the Otay River was eliminated.

The Board of Supervisors therefore finds that the finally approved Project is environmentally superior to the Phase II-Progress Plan and therefore rejects the Phase II-Progress Plan.

C. FOURTH ALTERNATIVE

The Fourth Alternative developed for the Otay Ranch represents a more moderate overall level of development than the New Town Plan and Phase I-Progress Plan alternatives. Development under the Fourth Alternative would result in an expected 27,418 residential units on 7,120 acres of land, resulting in a population of approximately 80,408 persons. Approximately 50.7 percent of the housing would be single-family detached units, while the remaining 49.3 percent would be attached multi-family units.

This Alternative proposes construction of a conference center in the Jamul Mountains, whereas the Project has eliminated any development in the Jamul Mountains. Development in the Jamul Mountains would significantly impact wildlife corridors by constraining wildlife movement in the major regional wildlife corridor between the Jamul Mountains and the San Miguel Mountains.

The Fourth Alternative is an alternative that includes predominantly single-family residential development, without compact urban development. The lack of commercial development adjacent to residential development could significantly increase reliance on the single occupancy vehicle and results in more negative impacts to air quality and traffic.

The Fourth Alternative blocks a continual linkage of coastal sage scrub across Rock Mountain from Wolf Canyon to the Otay River Valley. In comparison, the finally approved Project creates a continuous 450-foot wide linkage between Wolf Canyon and Otay River Valley.

Residential development on the eastern parcel (east of the upper Otay Reservoir) would significantly impact Gnatcatcher habitat. The finally approved Project avoids development in that area.

The finally approved Project restricts development beyond 15,000 units until funding of construction is assured for LRT. Additionally, levels of service must be met on all circulation element roads. The Board of Supervisors therefore finds that the Project is environmentally superior to the Fourth Alternative and rejects the Fourth Alternative.

D. THE PROJECT TEAM ALTERNATIVE

The Project Team Alternative also represents a moderate level of development on the Otay Ranch property. Approximately 6,317 acres of land would support the development of a maximum of 24,064 dwelling units for an estimated population of 67,046. The Project Team Alternative differs from the others mainly on its emphasis on multi-family residences (i.e., 60.4 percent of the total) and reliance on clustering.

The Project Team Alternative requires that 60.4 percent of the units be devoted to medium, medium-high or high density development (multi-family). This high proportion of attached housing cannot be supported by projected market demand. (See "Preliminary Market Overview" of the Otay Ranch Project in San Diego County, California, July 21, 1989, Kenneth Leventhal and Company, attached hereto as Exhibit A). Additionally, the Chula Vista General Plan does not support that high of a ratio of multi-family to single-family development. Finally, compatibility with existing adjacent communities would not be achieved by this mix.

The impacts identified in the Project Team Alternative with regard to biology in Central Proctor Valley are even greater than the Phase I and Phase II-Progress Plans because the residential areas impact important biological habitat and wildlife movement.

The Project, unlike the Project Team Alternative, requires certain levels of service to be met on all circulation element roads and restricts development beyond 15,000 dwelling units or 4,000,000 square feet of commercial until funding and construction of LRT is assured. The Board of Supervisors therefore finds that because of the above described significant unmitigable impacts the Project is environmentally superior to the Project Team Alternative.

E. THE COMPOSITE GENERAL PLANS

Development of the Otay Ranch property under the Composite General Plans Alternative would utilize the land use designations within the City of Chula Vista Eastern Territories Plan, the County of San Diego Otay and Jamul-Dulzura Subregional Plans, and the City of San Diego Otay Mesa Community Plan. Development of the Otay River parcel would be governed by the policies and provisions of the City of Chula Vista and City of San Diego, while both eastern parcels would be subject to County of San Diego plans and policies. Overall, buildout of this alternative would result in a maximum of 20,470 dwelling units at an average new density of 0.85 du/ac and generate approximately 62,487 residents. Approximately 80.6 percent of the homes would be single-family, while the balance would be multi-family residences.

The Composite General Plans Alternative contains no Resource Management Plan (RMP). Rather, the Composite General Plans Alternative proposes less dense

development on the San Ysidro and Proctor Valley parcels without any preserve contemplated within those two parcels. The result of that type of development would be:

- No wildlife corridors
- No preservation of contiguous blocks of sensitive habitat
- Significant impacts on every species identified in the EIR

The Final Project and the finally approved Project Objectives seek to establish a long term comprehensive management and protection program for natural resources.

The lack of an RMP, in addition to eliminating a preserve, would also eliminate the proposed interpretive center currently proposed in the finally approved Project. The finally approved interpretive center would function as an educational center for cultural, biological and other resources.

Additionally, the Composite General Plans Alternative envisions an east-west access road in the Otay River Valley leading to Salt Creek. This crossing has the potential to result in significant impacts to biological resources including a coastal sage scrub link between Wolfe and Salt Creek Canyons which serves as an avian wildlife corridor, could block the entry to Wolf Canyon which could impede mammal movement and potentially impacts sensitive plant species.

Because the Composite General Plans Alternative results in significant biological impacts that are greater in degree than those that result from the Project (primarily as a result of the lack of an RMP) the Board of Supervisors rejects this alternative even though there are some environmental benefits to this alternative. In making this determination the decisionmakers have balanced the necessity for creating a Preserve in perpetuity and creating densities sufficient to support transit against other potential environmental benefits of the environmental alternative.

In addition to the biological impacts summarized above, the Composite General Plans Alternative envisions traditional suburban development rather than a village design; the village design is thought by planners to encourage more pedestrian and bicycle trips, thereby reducing reliance upon the automobile.

Finally, the Final Project, unlike the Composite General Plans Alternative, restricts development beyond 15,000 dwelling units, or 4,000,000 square feet of commercial until funding of construction of LRT is assured and requires the Project to achieve certain levels of service on circulation element roads. The Board of Supervisors therefore finds that because of the above described unmitigable impacts, the Final Project is environmentally superior to the composite General Plan alternative.

F. LOW DENSITY ALTERNATIVE

Adoption of this alternative would result in 7,423 acres of residential development and allow for a maximum of 10,287 dwelling units at an overall density of 0.44 du/ac and a population of approximately 32,544. Approximately 87.9 percent of the new units would be single-family, while the remaining 12.1 percent would be multi-family units. This alternative emphasizes single-family residential and represents the second lowest development density of the Project alternatives evaluated in the EIR.

The Low Density Alternative does not include an RMP, consequently there is no provision for the preservation of the numerous species and habitats as defined in the finally approved Project. The lack of an RMP, in addition to eliminating a preserve, would also eliminate the proposed interpretive center currently proposed by the Project. The proposed interpretive center would function as an educational center for cultural, biological and other resources. The Low Density Alternative significantly impacts sensitive biological areas south of the lakes and on the Jamul Mountains. The Low Density Alternative also significantly impacts wildlife movement by constraining most of the wildlife corridors.

The finally approved Project and the finally approved Project Objectives, seek to include a long term comprehensive management and protection program for natural resources. Under the Low Density Alternative such a program is not contemplated.

In addition, the Low Density Alternative does not contain sufficient density to support transit options. Without sufficient densities to facilitate transit, reliance on the automobile will continue with resultant negative impacts to traffic and air quality. (See e.g. "Land Use Strategies for More Livable Places", Local Government Commission, June 1, 1992, Exhibit B, and "South Bay Rail Extension Study," SANDAG, February 5, 1991, Exhibit C, attached hereto)

For these reasons, the County therefore rejects the Low Density Alternative as environmentally inferior to the Project. In balancing the need to create a long term comprehensive preserve and to plan development densities conducive to the provision of transit, the Board of Supervisors determines that these goals are more important than the other potential benefits of this alternative Project.

G. ENVIRONMENTAL ALTERNATIVE

This alternative was developed to minimize environmental impacts of the finally approved Project, especially effects on steep slopes (greater than 25 percent) and sensitive biological and archaeological resources. In comparison to the other project alternatives, the Environmental Alternative would result in the lowest gross density. Adoption of this alternative would result in 4,553 acres of residential development and allow for a maximum of 9,251 dwelling units at an overall density of 0.40 du/ac and a population

of 28,863. Approximately 73.4 percent of the homes would be single-family detached units, while the remainder would be multi-family attached units.

The Environmental Alternative does not contain a Resource Management Plan to manage the biological and cultural resources on site. The lack of an RMP, in addition to eliminating a preserve, would also eliminate the approved interpretive center currently approved by the finally approved Project. The proposed interpretive center would function as an educational center for cultural, biological and other resources. The Project Objectives seek to include a long term comprehensive management and protection program for natural resources. Under the Environmental Alternative such a long term program is not contemplated.

The Environmental Alternative does not implement the land use and housing goals of the Interjurisdictional Task Force. Both the Project objectives and the Interjurisdictional Task Force objectives seek to provide a balanced housing mix to address local and regional housing demand. Since the environmental alternative proposes predominantly single-family dwellings (73.4%) this alternative does not meet the Project objectives of a balanced housing mix.

In addition, the Environmental Alternative does not contain sufficient density to support transit options (See attached Exhibits B and C). Without sufficient densities to support transit, reliance on the automobile will continue with resultant negative impacts to traffic and air quality. Additionally, the finally approved Project restricts development beyond 15,000 units until LRT funding and construction is assured. The Project also requires that specific levels of service on all circulation element roads.

For these reasons the Board of Supervisors finds that the benefits of creating a long term comprehensively managed Preserve and the benefits of planning development conducive to transit outweigh other potential benefits of the environmental alternative.

H. NO PROJECT ALTERNATIVE

Under the No Project Alternative the property would remain in its present condition as rural agricultural land and undeveloped open space. It is anticipated that dry farming and grazing uses would continue to occur on the majority of the property. The eastern extension of East Orange Avenue and construction of Hunte Parkway would still occur to accommodate regional traffic from the EastLake development, but both roadways would terminate at the edges of EastLake. SR-125 could still be extended through the Otay Ranch property by CalTrans.

SANDAG estimates that the housing needed for projected growth in San Diego County exceeds what can be constructed pursuant to existing General Plan designations. **[cite?]** The No Project Alternative would leave the property in its current undeveloped state. This alternative is rejected by the Board of Supervisors because the finally approved

Project provides the needed housing and jobs anticipated by SANDAG. The Project objectives also specifically identify the necessity to create a balanced housing mix, particularly in proximity to employment centers. In addition, the Project provides the decisionmakers with the opportunity to plan the entire parcel as a whole and thus more effectively pursue the preservation of biological and cultural resources and sensitive land forms on site.

The No Project Alternative would make it difficult, if not impossible, to implement the circulation element and the County regional transportation system because necessary regional roads would not be constructed. Significant impacts from already approved zoning would occur in proximate communities such as the City of Chula Vista, the City of San Diego (San Ysidro) and West Otay Mesa if the regional facilities are not constructed.

The No Project Alternative would not achieve the Project objectives of the Final Project to provide housing in proximity to employment centers currently planned for development in Otay Mesa. Finally, the No Project Alternative would allow for the continued grazing and farming of the site which results in continued degradation of the natural and cultural resources on site. The finally approved Project Objectives seek to create a program for the long term and comprehensive management and protection of natural resources. This objective could not be met by continued farming and grazing onsite.

For these reasons the Board of Supervisors rejects the No Project Alternative as infeasible because it does not meet any of the Project objectives. Additionally, the failure to plan the entire site as a whole and provide for an extensive Preserve now could result in piecemeal sale of the property and non-contiguous habitat with questionable viability.

In addition to the onsite alternatives the FPEIR also looked at a range of offsite alternatives. The following offsite alternatives are rejected for the reasons described.

A. GREATER DULZURA OFFSITE ALTERNATIVE

The Greater Dulzura Alternative site is bisected by SR-94 and is located immediately east of Otay Ranch. The community of Jamul, which has a "Country Town" designation in the general plan, is adjacent to the site to the northwest, while the communities of Dulzura and Engineer Springs are within the site boundaries to the southeast. The site is under the jurisdiction of the County of San Diego, and is completely contained with the Jamul-Dulzura Subregional Planning Area. The site consists of approximately 22,850 acres and is owned by several hundred individuals and businesses. The topography is characterized by numerous small valleys and mountains, with elevations ranging from approximately 600 feet above mean sea level (MSL) at the western boundary to 2,650 and 2,840 feet above MSL in the mountains. Approximately 9,250 acres have slopes under 25 percent, and most of that area is assumed to be developable. Most of the

balance of the site (13,600 acres) has slopes over 25 percent, and it is assumed that such lands would generally be withheld from development.

This alternative has the potential to result in significant impacts to lower Otay Lake which is the source of drinking water for the City of San Diego. With regard to transportation, extensive road upgrades would be required for this alternative site location. In addition, transit would be extremely difficult to implement because, unlike the Otay Ranch site, the Dulzura site is not contiguous to existing transit. The Greater Dulzura site has a greater impact on growth inducement since it would represent significant "leap frog development." For these reasons the Greater Dulzura Alternative is not considered by the decisionmakers to be an environmentally superior alternative.

B. WEST RAMONA OFFSITE ALTERNATIVE

The West Ramona Alternative site is an elongated area more than 11 miles long, located near the town of Ramona. In size it totals 23,400 acres, of which 10,175 acres have less than 25 percent slope and are considered potentially developable. Topography is varied, ranging from elevations of 500 and 700 feet above MSL in San Pasqual Valley at the northeast corner and adjacent to the San Vicente Reservoir at the far southern boundary, to 2,349 feet at the top of Mt. Woodson. Most of the developable acreage is located on a plain northwest of Ramona, with a smaller area of approximately 2,000 acres directly east of Poway along SR-67. Approximately 2,500 acres of the site are within Poway and San Diego City limits. The other 20,900 acres are under the jurisdiction of San Diego County, primarily in the Ramona planning area; approximately 5,000 acres are being proposed for non-development within the northern Lakeside and southwestern North Mountain SPAs. The site is crossed by SR-67 and SR-78 and has more than 200 landowners. It is adjacent to an existing urban limit line at Ramona.

The West Ramona Alternative is rejected as infeasible because it is not adjacent to existing developed areas. Consequently, the development of West Ramona would be more growth inducing because of the gap between developed and undeveloped areas. Such non-contiguous development would result in greater air pollution impacts, greater traffic impacts and greater energy consumption. West Ramona has multiple ownerships as opposed to one single ownership and for that reason the decisionmakers believe it would be more difficult to implement program-wide mitigation measures such as a preserve. Finally, the proximity of West Ramona to the research observatories in the county would create significant unmitigable impacts to those facilities. For these reasons, the West Ramona Alternative is considered by the decisionmakers to be infeasible.

C. EAST RAMONA OFFSITE ALTERNATIVE

The East Ramona Alternative site consists of approximately 23,950 acres located immediately east of the urban limits of the town of Ramona, and west of the small

community of Santa Ysabel. Other boundary landmarks include Sutherland Reservoir to the North, and Cleveland National Forest to the east and southeast. Topographic elevation ranges from 1,700 feet above MSL in one valley near the southwest corner, to 3,279 feet above MSL at Witch Creek Mountain near the eastern boundary. Approximately 11,000 acres have been identified as developable (less than 25 percent slope). Within the 1,950-acre balance, most areas consist of steep slopes, but there is also a substantial area of over 2,000 acres which has slopes of less than 25 percent. SR-76 passes through the site, which is almost completely within the county's Ramona planning area. A small area, less than 1,200 acres, lies within the North Mountain subregion. The site has more than 600 owners.

The East Ramona Alternative is rejected as infeasible because it is not adjacent to existing developed areas. Consequently, the development of East Ramona would be more growth inducing because of the gap between developed and undeveloped areas. Such non-contiguous development would result in greater air pollution impacts, greater traffic impacts and greater energy consumption. East Ramona has multiple ownerships as opposed to one single ownership and for that reason the decisionmakers believe it would be more difficult to implement program-wide mitigation measures such as a preserve. Finally, the proximity of East Ramona to the research observatories in the county would create significant unmitigable impacts to those facilities. For these reasons, the East Ramona Alternative is considered by the decisionmakers to be infeasible.

D. RANCHO GUEJITO OFFSITE ALTERNATIVE

The Rancho Guejito Alternative site consists of approximately 23,700 acres, located over three miles east of the urban limits for the town of Valley Center, over four miles east of the City of Escondido, and three miles north of the northernmost reaches of the City of San Diego. Approximately 10,800 acres are considered potentially developable (with slopes less than 25 percent). Topography is quite varied, ranging in elevation from 1,500 feet above MSL to 4,221 feet above MSL at the peak of Pine Mountain. Potentially developable areas are located in several valleys and on several mesas in the southwestern two-thirds of the site. The site is within the jurisdiction of San Diego County and overlaps the boundaries of several county planning areas. Most of the site is within the southern part of the Pala-Pauma Subregion, although more than 4,000 acres are within the Valley Center plan area (eastern end) and over 2,000 acres lie at the far eastern end of the North County Metropolitan Subregion. Ranch Guejito itself, along with some adjacent land, is held by one owner. However, more than 300 landowners hold title to the entire site under consideration, primarily in the area immediately east of Valley Center and west of the ranch. County Route S-6 (Valley Center Road) is adjacent to the site at its extreme northwest corner.

The Rancho Guejito Alternative is rejected as infeasible because it is not adjacent to existing developed areas. Consequently, the development of Rancho Guejito would be

more growth inducing because of the gap between developed and undeveloped areas. Such non-contiguous development would result in greater air pollution impacts, greater traffic impacts and greater energy consumption. Rancho Guejito has multiple ownerships as opposed to one single ownership and for that reason the decisionmakers believe it would be more difficult to implement program-wide mitigation measures such as a preserve. Finally, the proximity of Rancho Guejito to the research observatories in the county would create significant unmitigable impacts to those facilities. For these reasons, the Rancho Guejito Alternative is considered by the decisionmakers to be infeasible.

E. DELUZ OFFSITE ALTERNATIVE

Because the site contains only 3,340 acres with less than a 25% slope, this site was eliminated from consideration early on in the site selection process. The Otay Ranch site allows the decisionmakers to comprehensively plan a 23,088 acre site and more specifically to allow the creation of a long term comprehensively managed Preserve within that site, while still meeting Project objectives of creating a balanced mix of housing in close proximity to employment centers. For this reason, the Board of Supervisors rejects this alternative as infeasible.

The DeLuz Alternative was rejected because of the following:

- More growth inducing;
- More air pollution generated and more energy consumed;
- More stress on local and regional transportation systems;
- Had multiple ownerships;
- More impactive on both research observatories in San Diego County.

For these reasons, the Deluz Offsite Alternative is considered by the decisionmakers to be infeasible.

PLANNING COMMISSION RECOMMENDATION

During the course of its deliberations regarding the Project, the County Planning Commission specifically requested that the findings discuss the infeasibility of the Planning Commission's recommendation. While this is not required by CEQA, this discussion honors the Planning Commission's request.

The plan which was recommended by the Planning Commission differs from the Project in many significant respects. Most significantly, the Planning Commission's recommendation eliminates all of Village 15, the development south and east of the Lower Otay Lake; eliminates all of the residential development proposed immediately east of the wildlife corridor at the easterly end of Village 13; and eliminates all residential development proposed south of the regional wildlife corridor in Central Proctor Valley, as well as a portion of the development area north of the regional corridor. The Planning Commission further recommended that the village core and

associated urban densities in Central proctor Valley be eliminated and replaced by 2, 4 and 8 dwelling unit/acre densities in the area north of the wildlife corridor. The Planning Commission also recommended that (a) sewer be precluded in the Central Proctor Valley area, and (b) that density in the transit village cores on the Otay River Parcel be 16 dwelling units/acre rather than 18 dwelling units/acre as envisioned by the Project.

The recommendations of the Planning Commission were deemed to be infeasible for a number of reasons. With regard to the area south and east of the lakes, i.e., the development of Village 15, this area was determined by the decisionmaker to provide a unique opportunity to meet one of the Project's fundamental planning objectives, i.e., the provision of a premium community of large, rural, estate lots similar to the community of Rancho Santa Fe. This area south of the Lower Otay Lake presents an opportunity to provide developable areas in isolated, rural pockets surrounded by open space preserve and panoramic vistas of the lakes, mountains and resort village to the north. The development of this premium housing enhances the ability of the Project to provide a broad range of housing types and to address the job/housing balance identified in the Project objectives and in the City's and County's General Plan.

With regard to development in Central Proctor Valley, the Planning Commission's preclusion of sewer facilities was deemed infeasible. There have not been sufficient studies conducted at this general plan level of approval to ascertain whether soils will allow sufficient percolation. Given the development's proximity to the Lower Otay lake, which serves as a source of potable water for the City of San Diego, sewers may be needed for health and safety reasons. With regard to elimination of development in Central Proctor Valley, the record documents the social and planning benefits associated with the Project's "Village" concept. As this is a primary objective of the decisionmaker, elimination of the village core and surrounding urban densities in the Central Proctor Valley area is deemed infeasible, as it would preclude achievement of this objective within the area. It should be noted that there is proximate urban development within the City of Chula Vista; thus, the decisionmakers believed that urban development in the Central Proctor Valley made sense, so long as the urban development was adequately buffered from Jamul. Moreover, adopted mitigation measures for the Project insure that the regional wildlife corridor is adequately protected. Additional widening of the corridor recommended by the Planning Commission is unnecessary and infeasible due to its impact on the development and Village core.

As for elimination of the development east of the wildlife corridor in Village 13, the decisionmaker has determined that the development of a premier resort village, including a residential component, in this area north of the lakes, is an important objective of the Project. This, coupled with the fact that testimony, reports and onsite visits, documented that the wildlife corridor is topographically separated from the proposed development and that the rim-to-rim topography of this corridor will continue to be protected, render elimination of this proposed development unnecessary and infeasible.

Finally, with regard to density in the transit village cores, the Planning Commission recommends 16 dwelling units per acre as opposed to the Project's 18 dwelling units per acre. The record,

including reports and testimony at public hearings, indicates that higher density in these transit village cores is desirable and necessary in order to implement the mass transit system envisioned by this Project. Accordingly, the Planning Commission's recommendation is deemed infeasible.

XI.
STATEMENT OF OVERRIDING CONSIDERATIONS

The Project would have significant, unavoidable impacts on the following areas, described in detail in Section VIII of these Findings of Fact (Direct Significant Effects and Mitigation Measures):

- Land Use (Project-specific and cumulative);
- Landform Alterations/Visual Quality (Project-specific and cumulative);
- Biological Resources (Project-specific and cumulative);
- Cultural Resources (Project-specific);
- Agricultural Resources (Project-specific and cumulative);
- Mineral Resources (Project-specific and cumulative);
- Transportation, Circulation and Access (cumulative);
- Air Quality (Project-specific and cumulative);
- Noise (Project-specific and cumulative).

The County has adopted all feasible mitigation measures with respect to these impacts. Although in some instances these mitigation measures may substantially lessen these significant impacts, adoption of the measures will, for many impacts, not fully avoid the impacts.

Moreover, the County has examined a reasonable range of alternatives to the Project. Based on this examination, the County has determined that none of these alternatives both (1) meets Project objectives, and (2) is environmentally preferable to the finally approved Project.

As a result, to approve the Project the County must adopt a "statement of overriding considerations" pursuant to CEQA Guidelines sections 15043 and 15093. This statement allows a lead agency to cite a project's general economic, social or other benefits as a justification for choosing to allow the occurrence of specified significant environmental effects that have not been avoided. The statement explains why, in the agency's judgment, the Project's benefits outweigh the unavoided significant effects. Where another substantive law (e.g., the California Clean Air Act, the Federal Clean Air Act, or the California or Federal Endangered Species Acts) prohibits the lead agency from taking certain actions with environmental impacts, a statement of overriding considerations does not relieve the lead agency from such prohibitions. Rather, the decisionmaker has recommended mitigation measures based on the analysis contained in the FPEIR, recognizing that other resource agencies have the ability to impose more stringent standards or measures.

CEQA does not require lead agencies to analyze "beneficial impacts" in an EIR. Rather, EIRs are to focus on potential "significant effects on the environment," defined to be "adverse."

(Pub. Resources Code, § 21068.). The Legislature amended the definition to focus on "adverse" impacts after the California Supreme Court had held that beneficial impacts must also be addressed. (See Wildlife Alive v. Chickering (1976) 18 Cal. 3d 190, 206 [132 Cal.Rptr. 377].) Nevertheless, decisionmakers benefit from information about Project benefits. These benefits can be cited, if necessary, in a statement of overriding considerations. (See CEQA Guidelines, § 15093.)

The County finds that the Project would have the following substantial social, environmental and economic benefits:

Environmental Protection and Preservation

In addition to the air quality, circulation and social benefits outlined below, the Project's single ownership, size and density make possible the planning and financing of a comprehensive natural resources preserve. The Project proposes to convey 12,509 acres of natural open space, encompassing the Otay River Valley, Jamul Mountains and San Ysidro Mountains. A managed preserve operated in accordance with the Project's approved Resource Management Plan (RMP) will be established to preserve and manage the resources and ensure their viability. The preserve includes an open space system which incorporates public education programs, links community to natural areas, and preserves and restores sensitive habitats, special land forms and wildlife corridors. In addition, a system of paths and trails will connect the urban villages and their parks, forming a passive and active recreation network throughout the Project.
The RMP adopted by the Board of Supervisors has the following functions:

- Functions as a plan-wide multi-species/habitat and cultural resources management program;
- Provides the funding, phasing and ownership mechanisms necessary to effectively protect and manage on-site resources over the long term;
- Plans for coordinated, controlled public use and enjoyment of the Management Preserve to be established as part of the RMP consistent with protection of sensitive resources; and,
- By requiring irrevocable dedications of open space acreage, provides certainty that the open space will be preserved in perpetuity. (Otay Ranch General Development Plan/Sub-regional Plan, October 5, 1992, p. 51, Exhibit D.)
- Preserves/protects cultural resources.

The RMP provides for management, resource enhancement and restoration research, education and interpretive activities to ensure that resource values in areas to be preserved are maintained and enhanced in perpetuity. The RMP also addresses cultural, paleontological, recreational and agricultural resource protection needs in addition to sensitive habitats. Finally, the RMP

provides an opportunity to establish large blocks of interconnected natural open space. By linking the Otay Ranch Management Preserve system to large and adjacent publicly owned open space lands with resource values similar to those found on the Otay Ranch property, the RMP contributes to the creation of an overall regional open space system, providing more than 35,000 acres of interconnected open space in Otay Ranch and the immediate vicinity.

Specifically, the preserve will result in the preservation of the following acreages of certain sensitive habitats which contain approximately 100 species of sensitive plants and animals:

- 8,385 acres of coastal sage scrub (includes "limited development areas")
- 228 acres of maritime succulent scrub
- 95 acres of needlegrass grassland (includes "special resource study areas")
- 164 acres of vernal pools
- 74 acres of southern live oak riparian forest
- 159 acres of tecate cypress forest
- 180 acres of coast live oak woodland
- 7 acres of sycamore alluvial woodland
- 13 acres of southern willow scrub
- 4 acres of aquatic/freshwater marsh
- 108 acres of alkali meadow
- 479 acres of floodplain scrub

Community Planning and Development

- Development Patterns Which Minimize the Adverse Impacts of Development on Air Quality and Congestion

  The Project area currently exceeds Federal and State air quality standards for a number of emissions factors, including ozone and carbon monoxide. A substantial majority of these emissions are attributable to motor vehicles. In order to comply with the Federal and California Clean Air Acts, the San Diego region must reduce these sources. The Project is designed to reduce the adverse impact to air quality and automobile congestion that would otherwise result if jobs and housing were provided for in a typical suburban development pattern. The Project accomplishes this goal through its location and design.

  The Otay Ranch parcel is located close to the urban core of the San Diego region, which will reduce the length of commuter trips. In addition, the Project's location adjacent to the Otay Mesa industrial area will provide housing proximate to this planned employment center. A mixed-use development, the Project will promote linkage of trips, reduced trip length and encourage use of alternative modes of transportation such as biking, walking and use of transit. The Project creates a multi-modal transportation network which minimizes the number and length of single passenger vehicle trips. Designed to encourage walking, biking

and use of transit and reduce reliance on automobile, the Project clusters high density, high intensity development in villages near transit and light rail terminals. Jobs, homes, schools, parks and commercial centers are close by and linked by pedestrian and bicycle routes.

The San Diego Association of Governments' (SANDAG) 1991 "South Bay Rail Transit Extension Study," (Exhibit C) which examined the feasibility of providing additional rail transit to the South County area by connecting the existing trolley system to Otay Mesa, concluded that the alternative trolley alignment, through Otay Ranch, resulted in the largest increase in regional new trips of the alternatives studied. (South Bay Rail Transit Extension Study, SANDAG, February 5, 1991, Exhibit C.) Additionally, the Project limits development to 15,000 dwelling units or 4,000,000 square feet of commercial use unless funding for light rail is assured.

- Social Benefits of Transit and Pedestrian-Oriented Development Pattern

  In addition to the improvement to air quality and congestion resulting from a reduced need for automobile trips, the Project's unique land plan will result in social benefits as well. Because most of the activities of daily living are within walking distance for most of the Otay Ranch population (particularly on the Otay Valley parcel), residents will benefit from the opportunity for increased mobility, particularly for those segments of the population who do not have the ability to drive, including the young, elderly and disable, and a sense of community.

Comprehensive Regional Planning

The Project provides the opportunity to comprehensively plan development which meets the region's needs for housing, jobs, infrastructure and environmental preservation. These benefits are made possible by the Project's size and scope, and the fact that it has at least been initially planned for development under a single owner. The General Development Plan for Otay Ranch includes a provision for regional purpose facilities and public services that are typically not undertaken for smaller development projects. The regional planning process undertaken for the Project involved long-range inter-jurisdictional coordination, ensuring maximum achievement of policies and regulations of both the City of Chula Vista and San Diego County.

The benefits offered by the regional planning process utilized for the Project include the following:

- Comprehensive consideration of the Project's cumulative effects

- Consistency in the approach to resolving regional issues such as transportation, air quality, habitat preservation, infrastructure and public services planning.

- Long-range coordination of local and regional public facilities.

The General Development Plan includes a provision for designating land for regional purpose facilities. The County's requirement for community purpose facilities (for uses such as social and human services, senior care, day care, etc.) to include facilities to house regional services such as offices, courts, detention facilities, medical facilities and public common areas. These facilities are provided by the County and are currently housed in County-owned facilities, where available, but are more commonly located in leased or rented space. Designation of land for regional purposes will facilitate the provision of these services and provide better locational opportunities for users of these uses than is currently available with new development. **[Source]**

Regional Housing Needs

The Project will help meet a projected long-term regional need for housing by providing a wide variety of housing types and prices. Recent SANDAG housing capacity studies indicate a significant shortfall of housing will occur in the Project area within the next 20 years. For example, the SANDAG Series VII population growth forecast, published in January 1987, estimates that within the South Suburban MSA, in which the Project site lies, employment will grow more substantially than housing or population (South County Land Use Analysis, Alfred Gobar & Associates, 1990, Exhibit E.) In recent years, the cost of housing compared to other uses has risen disproportionate to the cost of other uses in the Project area (e.g., commercial, industrial), reflecting a shortfall in residentially zoned land. The Project will help reduce the cost of housing by designating an adequate supply of suitable land for residential development.

The Project also provides a mixture of housing types in proximity to one another, responding to needs of singles, families, students and seniors. With 55.5 percent single-family designations and 44.5 multi-family designations, a broad range of housing types and costs are anticipated. The classification of a sizable portion of the Otay Ranch housing product type as attached will assist in providing more affordable housing, since it is recognized that the key contributing element of the cost of housing is the price of land.[4] This range of housing types and prices will promote socio-economic diversity, which the County finds both important and desirable.

Fiscal Benefit

The fiscal impact analysis conducted for the Otay Ranch has concluded that, at buildout, the Project will have a net positive impact on both the City of Chula Vista and the County of San Diego. Because it is anticipated that during buildout there will be short-term periods in which the costs to service the Project exceeds revenues, the Project includes a reserve fund program,

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[4] It is commonly recognized that increasing allowable densities allows more units on available land, effectively increasing the supply of land and decreasing the cost of housing. ("Land for Housing," Urban Land Institute, p. 3-5, Exhibit F and "The Next American Metropolis," Princeton Architectural Press, Peter Calthorpe, Exhibit G).

which protects the City and County by correcting for any operating deficiencies incurred by the affected jurisdiction during years where there is a fiscal shortfall. Financing of the reserve program and the cost of annual fiscal reviews will be the responsibility of the applicant. (Otay Ranch Service/Revenue Plan, January 11, 1993.)

For the foregoing reasons, the County finds that the Project's adverse, unavoidable environmental impacts are outweighed by these considerable benefits.

GAF/96/FINDINGS.CO
R/11/5/93

TABLE OF EXHIBITS

EXHIBIT	DOCUMENT TITLE
A	"PRELIMINARY MARKET OVERVIEW" OF THE OTAY RANCH PROJECT IN SAN DIEGO COUNTY, CALIFORNIA, JULY 12, 1989, KENNETH LEVENTHAL AND COMPANY
B	"LAND USE STRATEGIES FOR MORE LIVABLE PLACES" LOCAL GOVERNMENT COMMISSION, JUNE 1, 1992
C	"SOUTH BAY RAIL EXTENSION STUDY", SANDAG FEBRUARY 5, 1991
D	"OTAY RANCH GENERAL DEVELOPMENT PLAN/SUB-REGIONAL PLAN", OCTOBER 5, 1992, PAGE 51
E	"SOUTH COUNTY LAND USE ANALYSIS", ALFRED GOBAR & ASSOCIATES, 1990
F	"LAND FOR HOUSING," URBAN LAND INSTITUTE, p. 3-5
G	"THE NEXT AMERICAN METROPOLIS - ECOLOGY, COMMUNITY, AND THE AMERICAN DREAM," 1993 (ONLY INCLUDED IN COUNCIL AND BOARD PACKETS) .

EXHIBIT A

Kenneth Leventhal & Company

Preliminary Market Overview
of the Otay Ranch Project
in San Diego County, California
July 21, 1989

Kenneth Leventhal & Company
Certified Public Accountants

Certified Public Accountants

Kenneth Leventhal & Company

Certified Public Accountants

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Ms. Elizabeth Long
The Baldwin Company

In accordance with our engagement letter dated May 31, 1989, we have prepared a preliminary market overview of the Otay Ranch project (the "Project") in San Diego County, California. Our report includes an analysis of the residential, industrial and commercial components.

Our preliminary market overview was based primarily on information provided by you and your outside consultants. While we believe the sources of information are reasonably reliable, we have not verified the accuracy of such information, and we do not express an opinion or any other form of assurance on the accuracy of such information.

The market overview includes assumptions about future developments in the economy and the local real estate markets as well as assumptions about potential future actions and marketing efforts by the Project's management. Achievability of the assumptions depends on the timing and probability of a complex series of future events, both internal and external to the Project. Accordingly, we do not express an opinion as to either the achievability of the assumptions or the probability that the actual results of the Project will approximate the estimated performance.

We did not ascertain the legal and regulatory requirements applicable to the Project including zoning, other state and local government regulations, or any other entitlement or title considerations. Furthermore, no effort was made to determine the possible effect of recent or future federal, state, and local legislation on the Project, including any environmental or ecological matters or interpretations thereof, or toxic waste or other significant physical site issues.

The market analysis prepared for this engagement includes long-term annual growth estimates that represent averages over periodic future economic and real estate cycles similar to those that have occurred during the past twenty years. No attempt has been made to estimate the timing and severity of such cycles.

The purpose of this report is to assist management in evaluating the Project and providing information to potential lenders. Neither the report nor any of its contents may be referred to, quoted or reproduced in any registration statement, prospectus, loan or other agreement or document without the prior written consent of Kenneth Leventhal & Company.

The terms of our present engagement do not provide for reporting on events subsequent to the date of this report. Therefore, we accept no responsibility to either update or revise this report subsequent to the date of its issuance.

Kenneth Leventhal & Company

July 21, 1989

Table of Contents

EXECUTIVE SUMMARY

The Otay Ranch (the "Ranch") is a 20,500-acre property located in unincorporated San Diego County (the "County") twelve miles south of downtown San Diego and immediately east of the city of Chula Vista. The Ranch is being planned and developed by the Baldwin Company ("Baldwin") as a master-planned community with a full spectrum of urban uses, including residential, commercial, industrial, resort, public and open space uses. The large size of Otay Ranch indicates a long-term development period to reach full buildout, on the order of 30 years.

Baldwin has retained Kenneth Leventhal & Company ("KL&Co") to prepare long-term projections of Otay Ranch absorption of major residential, commercial and industrial uses at an overview level; and to provide recommendations for the residential product mix and pricing, and commercial and industrial land pricing. The results of our study are outlined in this Executive Summary. More details of our analyses, conclusions and recommendations are summarized in subsequent sections of this report.

SAN DIEGO ECONOMIC GROWTH

During the past few years, San Diego County has been one of the most rapidly growing major urban areas in the United States. San Diego has a diversified economic base and a very attractive living and working environment, which are projected to maintain the County as one of the most rapidly growing urban areas over an extended period of future time. Regional growth in population and employment generates demand for real estate products and developed land, so future long-term demand for real estate development in San Diego is expected to remain strong. The San Diego County economy over the next 30 years shows an average growth rate for employment of 2.1% per year and 1.6% per year for population.

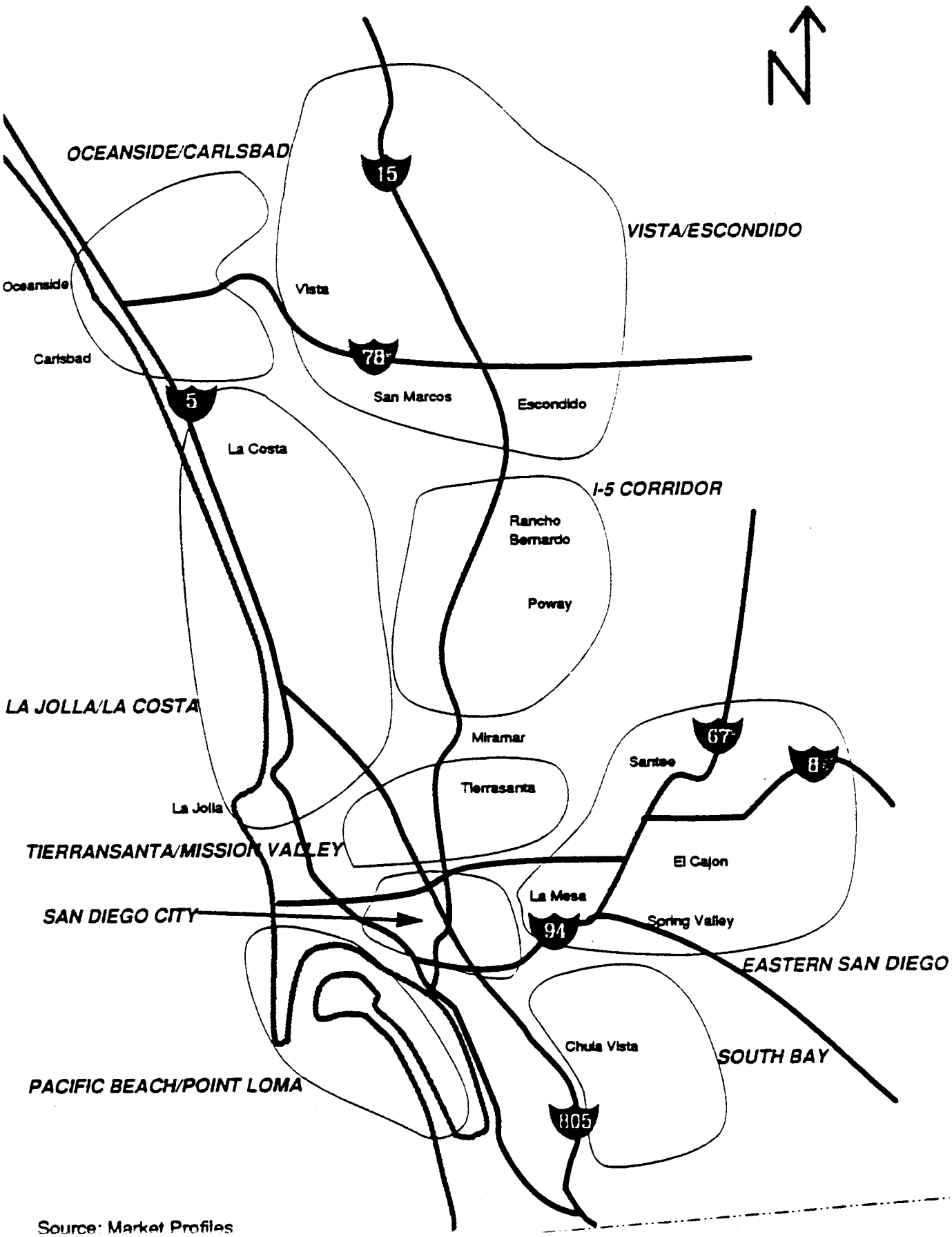
SUBREGIONAL GROWTH PATTERNS

San Diego County growth until the last 2-3 decades was mostly centered around and expanding slowly outward from the downtown San Diego area. With the advent of major freeway construction over the past 20 years, employment and especially population growth have occurred rapidly in several other areas of the County. The freeways that stimulated this dispersion of growth are Interstate 5 (north and south from downtown), I-8 (east from downtown), I-15 (northeast from downtown), and the I-5 connection to Orange County to the north.

The greatly improved region-wide accessibility provided by these freeways has stimulated the growth of several major employment centers in addition to downtown (see the map on the following page):

- The South Bay area, south of downtown along I-5
- Mission Valley, northeast of downtown along I-8
- Kearny Mesa, northeast of downtown near I-8 and I-15
- University Town Center/Sorrento Valley/Mira Mesa north of downtown along I-5
- The north coastal area of Oceanside, Carlsbad and Vista/San Marcos along I-5
- The Escondido/Rancho Bernardo area in the northeast county along I-15

SAN DIEGO RESIDENTIAL SUBMARKETS



Source: Market Profiles

In addition, several long-standing employment concentrations have been provided by large military installations at San Diego Harbor, Mira Mar Naval Air Station, and the Camp Pendleton Marine Base in the north county.

The growth of these employment nodes, and the accessibility to them provided by the freeways, has stimulated the rapid development of housing and population growth in several of the following County areas over the past 10-15 years:

- The I-8 corridor east through La Mesa and El Cajon
- The I-5 corridor north from La Jolla to Oceanside
- The I-15 corridor north from Mira Mesa to Escondido

This recent rapid growth has generated an anti-growth reaction in the city of San Diego and many North County cities during the last five years. The anti-growth sentiment is largely based on real, imagined or anticipated traffic congestion, overloading of sewer and water systems, and deterioration in the existing "quality of life." Growth limiting movements in those areas have succeeded in passing growth limiting initiatives and ordinances in cities such as Carlsbad, Encinitas, and Oceanside.

Almost all of the growth limitations have been in the form of maximum numbers of housing units allowed per year, ranging from a temporary moratorium on all housing units (Poway), to about 1,000 units per year (Escondido), to 10,000 - 15,000 units per year (City of San Diego). All of these housing unit limits are substantially less than the demonstrated demand for new housing units in the cities. Nonresidential growth has been subject to few restrictions throughout the County.

The Otay Ranch is located in the South Suburban (South Bay) subregion of the County. The cities and agencies that ultimately control growth in this subregion have not placed any fixed limitation on the number of housing units that can be built each year. Instead, they have tied residential growth to construction of infrastructure systems adequate to support the community needs. Their policy is to approve substantial levels of residential growth if the needed infrastructure systems are provided before or concurrent with the construction of houses. One result of such a policy in the future will be to cause a significant amount of the strong County housing demand to shift to the South Suburban area if agencies and developers in that area construct, in a timely manner, the infrastructure systems needed to support elevated levels of housing production that respond to the demand.

COMPETITIVE ADVANTAGES OF THE OTAY RANCH

Strong future growth in San Diego County will produce high levels of aggregate demand for new housing and nonresidential building space. The Otay Ranch will be competing with other County subregions and developments to capture a significant portion of that demand. The Ranch will have a strong competitive position due to a number of significant competitive advantages, such as:

- The large size of the Ranch allows Baldwin to develop a quality, well-planned, fully integrated community that provides jobs, housing, shopping and most of the public and private urban facilities and services that create a desirable place to live, work and do business. Baldwin is planning to develop such a community. The previous experience of many other large, well-planned communities in Southern California has demonstrated that people and businesses prefer to locate in such communities instead of smaller, uncoordinated, lower overall quality tracts and developments.

- The light industrial, business park and commercial centers planned for the Otay Ranch, and other employment-providing developments in Otay Mesa, will provide thousands of jobs adjacent to residential areas of the Ranch. Many workers will be attracted to nearby housing in Otay Ranch. At the same time, the thousands of workers living in Otay Ranch will provide a nearby labor force that will help attract employers to the Otay Ranch employment centers. Otay Ranch housing is planned to provide a full spectrum of housing opportunities affordable to workers of most income levels. This mutually supporting relationship between labor force and jobs is one of the major advantages of fully integrated master-planned communities like Otay Ranch.

- The large scale of Otay Ranch will allow Baldwin to spend substantial amounts every year to market and promote the Ranch. This marketing advantage will help substantially in attracting a higher market share and will help to create a stronger image. Smaller competing developments cannot afford to spend as much and consequently will have less marketing impact than Otay Ranch.

- The Otay Ranch area presently has better access to major employment centers in the harbor, downtown, Mission Valley and Kearny Mesa areas than most other residential areas in the north and east County. Freeways and arterials from the other residential areas to the indicated employment centers are now highly congested during peak hours, while freeways and arterials from the South Bay area are much less congested. Several additional north-south and east-west freeways and arterials are planned for construction through and to Otay Ranch. When these are completed, access to jobs for Ranch residents should be even better while freeways to the north and east of the downtown area become even more congested. This situation will attract households to locate in Otay Ranch.

- Until the last few years, the South Bay area had the image of an inferior place to live compared to areas in the central and north County. The recent success of the Eastlake development, which is a large, good quality, well-planned residential community, has changed that image. The strong acceptance of the high quality, higher priced housing in Eastlake has demonstrated that South Bay has become an attractive place to live. Otay Ranch is adjacent to Eastlake, so the Ranch can build on this favorable image without having to go through the often lengthy and difficult process of initially creating the image.

- As indicated above, the limitations on housing unit development in much of the rest of the County will shift residential demand to the South Bay area and to Otay Ranch, which will be the largest and highest quality, fully integrated master-planned community in South Bay. Since Baldwin is planning to ensure that infrastructure systems keep pace with Otay Ranch growth, the Ranch should be able to produce enough housing units to maintain this substantial competitive advantage and absorb the residential demand.

- Developed land and housing prices in most north and central County areas have increased rapidly in the past few years, and have reached fairly high levels. This run-up in prices has been caused, in part, by residential growth restrictions that have limited supply relative to demand, and by high land development costs in some areas due to difficult topography. Baldwin's relatively low land cost base, and the easily developable topography of much of the Ranch, should allow Baldwin to price its residential land and housing, and nonresidential land and buildings, very competitively with respect to developments in other areas of the County.

SAN DIEGO COUNTY AND SOUTH SUBURBAN HOUSING DEMAND

The strong future population growth in San Diego County, indicated in the population projections presented above, will generate a strong future demand for housing units in the County. The historical growth in County occupied housing units, and the projected future demand, is summarized in the following table:

Period	Average Annual Increase in Occupied HU
1980-1984	11,900
1985-1988	31,800
1989-1995	25,900
1996-2000	23,400
2001-2020	18,800

As indicated previously, most housing growth over the last 10-15 years has occurred in the central and northern parts of the County. During the 1980-1984 period, the South Bay Submarket area where Otay Ranch is located captured only 7.6% of total County housing growth. One significant reason for the low capture rate was that there were no sizable housing developments in the South Suburban area, so total housing production levels were low.

During the 1984-1988 period, however, the South Bay Submarket capture of County housing growth increased to 9.3%. This increase largely resulted from two factors:

- The Eastlake project east of Chula Vista was developed and started producing and selling houses at a rate of 400-600 units per year. The Bonita Long Canyon project was also developed and produced and sold 200-300 houses per year. These two larger projects, combined with a number of smaller tracts, helped increase housing unit absorption in the area from 700 units in 1983 to 3,500 units per year during the 1986-1988 period.

- 1984-1988 was the period during which many of the growth limiting ordinances were passed elsewhere in the County, as outlined previously. This constraint on supply tended to force some demand to other areas of the County, and the South Suburban area was one of the beneficiaries.

The scenario, thus, was one of rapidly increasing South Suburban housing production at the same time that the shift in demand absorbed the houses.

In the future this scenario is projected to continue and accelerate, with the South Suburban area increasing its capture of San Diego County housing absorption from the present 9% to 15% by 1995 and 20% by the year 2000. In addition to the continuing shift in demand, development of Otay Ranch, with its size and competitive advantages, will attract increasing numbers of households to locate in the South Suburban area.

In terms of housing unit absorption, the South Suburban market is projected to absorb an average of 2,300 housing units per year through 1994, then 3,500 units per year through 1999, and 3,800 housing units per year in 2000 and after.

In order to provide an additional indication as to whether or not the South Suburban market can absorb 3,500-3,800 housing units per year, the actual experience of three other comparable rapidly growing areas in Southern California was analyzed. These areas are Mission Viejo, the Irvine Ranch, and the Ontario/Rancho Cucamonga area. These three areas have the following major characteristics in common with the South Suburban area:

- Adjacent to a large, rapidly growing urban area.
- Good freeway access to jobs in the adjacent urban area.
- Approximately the same large amount of developable land.

In addition, Mission Viejo and the Irvine Ranch were developed by a single owner/developer (Ontario/Rancho Cucamonga had a few large developers); Otay Ranch is by far the largest project in the South Suburban area. The Irvine Ranch and Ontario/Rancho Cucamonga also included large nonresidential, job-creating developments similar to the planned large business park and light industrial areas in and adjacent to Otay Ranch in the Otay Mesa (Mission Viejo was almost exclusively residential).

Mission Viejo and the Irvine Ranch started large-scale development about 1970 and experienced their rapid growth phase in the late 1970s. The Ontario/Rancho Cucamonga area started development in the late 1970s and is still in its rapid growth phase. These three areas thus have already gone through much of the typical growth pattern that Otay Ranch and the South Suburban area will experience: A steady buildup of growth in the early development phase; a period of rapid growth; and then a phase of somewhat slower growth as the area matures and becomes urbanized.

During their early development phases, these three comparable areas absorbed 2,400-2,900 housing units per year; and during their rapid growth period, the areas absorbed 3,000-4,500 units per year. The experience of these comparable rapid growth areas indicates strongly that the South Suburban area can achieve housing unit absorption of the projected 3,500-3,800 units per year.

OTAY RANCH HOUSING UNIT ABSORPTION

Within the South Suburban area, Otay Ranch will be competing with six sizable planned residential developments, as follows:

Development	Start of HU Sales	Remaining Units
Eastlake	now selling	6,993
Salt Creek	1990	4,231
Bonita Meadows	1991	275
Bonita Miquel	1994	1,550
Rancho Del Rey	1990	4,028
Sunbow	now selling	2,161
Total Housing Units		19,238

Otay Ranch is planned to have 43,000 housing units, with home sales starting in 1994. In addition to these larger developments, a significant number of small tracts now are producing and will continue to produce housing units in the South Suburban area.

When Otay Ranch starts selling units in 1994, it will be competing with the other large planned residential developments as well as the smaller scattered tracts. Since the Ranch will be a new development, it will take a few years to establish itself in the South Suburban competitive market. It is expected that sales of homes in Otay Ranch will increase steadily during this period, starting at 800 homes per year in 1994 and increasing to 1,400 homes per year by 1996. Sales at the Ranch will start at the fairly high level of 800 homes in 1994 because the Ranch will have a superior marketing impact (as discussed previously), and because Otay Ranch is planned to offer homes over the full spectrum of home types and price ranges in 8-10 tracts initially.

Otay Ranch home sales are projected to remain at the 1,400 unit per year level until after the year 2003, when the other large residential developments will have achieved sellout. At that point, home sales on the Ranch are projected to increase to 1,800 units per year and remain at that level until all Otay Ranch homes are sold out in about 2020.

Year-by-year projections of Otay Ranch housing unit absorption are presented in a subsequent section of the report. Baldwin plans to sell lots to home builders, who typically buy lots about one year before homes are completed and sold. An annual projection of lot sales was also prepared, in which lots are shown as sold by Baldwin one year before the resulting homes are sold.

Our analyses covered only the for-sale housing market for Otay Ranch; the apartment market was not analyzed. However, the experience of other large master-planned communities indicates that apartment units can be absorbed in significant numbers (200-400 units per year) after a project has been under development for a number of years and has established itself.

RECOMMENDED OTAY RANCH RESIDENTIAL PRODUCT CHARACTERISTICS

KL&Co performed a detailed analysis of the characteristics of housing units sold in San Diego County and the South Bay area during the past year. Following is the price distribution of the homes sold:

Price Range	San Diego County % Share	South Bay % Share
Detached		
$400,000 +	4%	3%
$350,000-$400,000	5%	11%
$300,000-$350,000	5%	9%
$250,000-$300,000	12%	8%
$200,000-$250,000	20%	0%
$150,000-$200,000	19%	16%
$100,000-$150,000	6%	9%
Total	71%	56%
Attached		
$200,000 +	5%	0%
$150,000-$200,000	5%	4%
$100,000-$150,000	10%	34%
Under $100,000	8%	5%
Total	29%	44%

Note: Discrepancies in totals are due to rounding.

San Diego County tracts in the aggregate produce units across the full price spectrum. Absorption was strongest in the middle price ranges, $150,000-$250,000 for detached homes and under $150,000 for attached homes. Absorption was low in the $100,000-$150,000 detached price range because not many homes were produced; high land and development costs make it difficult to develop homes profitably for these prices.

The South Bay price distribution is erratic since it reflects only what was produced by the much smaller number of tracts in South Bay. No or few units were produced in certain of the price ranges, and the attached home distribution was distorted by one highly successful condominium project in Eastlake.

Otay Ranch can maximize housing unit absorption by producing homes over the full spectrum of types and prices. Accordingly, the San Diego County home price distribution is a much better indicator of demand than the South Bay distribution. Based on our analysis of the County and South Bay housing markets, we recommended that Baldwin produce the following mix of housing units and prices in Otay Ranch:

Home Type	Lot Size/ Density	Home Size (SF)	Home Price (1989 $s)	Percent Distribution
Detached				
Estates	1/2-1 acre	3,000-4,000	$400,000-$500,000	2%
Semi-Custom	10,000 SF	2,500-3,500	$325,000-$450,000	8%
Detached High-End	6,000-7,500 SF	1,800-2,600	$250,000-$325,000	12%
Detached Medium	5,000 SF	1,500-2,000	$200,000-$250,000	23%
Detached Patio	4,000 SF	1,300-1,600	$160,000-$200,000	28%
Total				73%
Attached				
Attached Patio	3,500-4,000 SF	1,300-1,500	$130,000-$165,000	12%
Townhomes	7-10/acre	1,000-1,300	$110,000-$135,000	10%
Flats	18-22/acre	850-1,000	$80,000-$110,000	5%
Total				27%

This mix provides a complete range of home prices and types that can be sold to a large spectrum of different households. A preponderance of the units are concentrated in the middle price ranges where absorption has been strongest in San Diego County. This is the kind of mix that can maximize home absorption in Otay Ranch.

Baldwin is planning to sell fully serviced, rough-graded parcels to home builders, who will then construct the subdivision streets and utilities, finish grade the lots, and build homes. We performed a residual lot value analysis to estimate the price per lot a home builder would pay for a parcel delivered at that level of development. The estimated prices per lot that Baldwin can obtain are the following:

Home Type	Average Price Per Lot (1989 $s)
Detached	
Estate	$ 114,900
Semi-Custom	119,500
Detached High-End	83,800
Detached Medium	69,000
Detached Patio	53,900
Attached	
Attached Patio	$ 42,200
Townhomes	24,500
Flats	16,400

Detached home prices in San Diego County have increased at a compounded rate of 9% per year since 1979, at a 15% annual rate since 1984, and 26% per year since 1986. Attached home price increases have been more modest: 5% per year since 1979 and 7% per year since 1984. Clearly, neither the County nor Otay Ranch can sustain annual home price increases of 15%-26% over the long-term future. However, in view of the Ranch's many competitive advantages and the strong future demand for housing in the County and South Bay, we estimate that Otay Ranch can achieve home price increases on the order of 10% per year over future years.

INDUSTRIAL MARKET ANALYSIS

The light industrial area of Otay Ranch is located in the Otay Mesa, which lies between the main part of the Ranch and Mexico. The Otay Mesa is largely flat and contains the largest undeveloped industrial area in San Diego County, some 6,500 acres. Industrial development activity has accelerated in Otay Mesa over the last few years, with some 1,600 acres now in some stage of planning or development. This high level of activity is due to several important advantages of the Otay Mesa location, including the following:

- Close proximity and good access to interior San Diego with its urban services, businesses and labor force.
- Excellent transportation access via freeways, the Port of San Diego, and airports.
- Low land development costs due to the flat terrain, resulting in land and lot prices significantly lower than industrial land elsewhere in San Diego County.
- Adjacent to the Mexican border, which makes it efficient for companies to operate twin plants on both sides of the border to take advantage of lower labor costs in Mexico. Many U. S. and international firms are establishing these plants in Otay Mesa.
- The largest amount of industrial land available in the County, including large industrial sites that would be scarce and expensive in other parts of the County.

All of these advantages point to the future continuing rapid development of Otay Mesa with industrial uses. In addition, development of a full range of housing opportunities in the adjacent

Otay Ranch will provide large amounts of nearby housing for employees, which will make Otay Mesa even more attractive as a location for businesses. Planned additional north-south and east-west freeways into Otay Mesa will also provide even better regional transportation access.

In our analysis of long-term industrial land absorption in Otay Mesa, we first projected future San Diego County demand for industrial building space based on the strong future growth in County employment. We next estimated how much of this demand Otay Mesa can capture, and then converted building space absorption to finished lot absorption using a floor area ratio (FAR) of .35 (building space divided by lot area). The results of this analysis are summarized in the following table (industrial building space in millions of square feet):

	San Diego	South Bay Area		Otay Mesa	
Year	County	Sq. Ft.	% of County	Sq. Ft.	% of So. Bay
1986	64.6	10.2	15.8%	0.1	1%
1990	93.8	15.9	17.0%	3.2	20%
2000	153.1	33.7	22.0%	13.5	40%
2010	216.3	64.9	30.0%	37.6	58%
2020	263.0	92.1	35.0%	61.7	67%

The South Bay area's share of County industrial space is projected to grow steadily, primarily due to rapid development of Otay Mesa, which has most of the remaining available industrial land in South Bay. The very rapid growth of Otay Mesa is indicated by the addition of industrial space during the last few years. In 1986 there were 100,000 sq. ft. of industrial buildings in Otay Mesa; by the end of 1988 this had increased to 1.3 million sq. ft. Another 900,000 sq. ft. is projected to be developed during 1989. This accelerated rate of development is due to the strong advantages outlined above that Otay Mesa offers as an industrial location, and this high rate of development is projected to continue over the long-term future.

This rapid growth in Otay Mesa building space translates into the following annual absorption of space and finished lots:

	Annual Average Absorption	
Period	Sq. Ft. of Industrial Space	Acres of Finished Lots*
1990-1994	876,200	57
1995-1999	1,188,000	78
2000-2004	2,072,400	136
2005-2009	2,759,600	181
2010-2020	2,404,400	158

*Using an FAR of .35

The Otay Ranch portion of the Otay Mesa industrial area will be competing with several other major industrial developments and a number of smaller projects in Otay Mesa. It is recommended that the Otay Ranch industrial land be developed with the following characteristics to give it a competitive advantage over other projects in Otay Mesa:

- Developed as a master-planned industrial park with landscaped streets and architectural and design controls to produce a high quality environment.
- Provide a mix of lots from small (1/2 - 5 acres) to large (30 - 50 acres) to encourage a mix of small tenants, light manufacturing, distribution/warehouse, R&D, and low-rise office space users.
- Market the Otay Ranch industrial park as an integral part of the whole Otay Ranch to take advantage of the Ranch's marketing power and impact.
- Take advantage of Baldwin's relatively low land cost base to price finished lots below competing Otay Mesa projects. This price advantage is important to achieving significant absorption rates, particularly in the early years of industrial park development.

In view of the foregoing competitive factors, we estimate that the Otay Ranch industrial park can initially capture 20% of Otay Mesa absorption, with this capture increasing to 25% once the industrial park is established. The projected absorption of finished lots in Otay Ranch industrial park is thus the following, in acres:

Period	Annual Average Absorption	Period Total Absorption	ORIP % of Otay Mesa
1990-1994	11	55	20%
1995-1999	20	100	25%
2000-2004	34	170	25%
2005-2009	45	225	25%
2010-2020	40	400	25%
Total		950	

Current finished lot prices in Otay Mesa are approximately $5.50 - $7.75 per sq. ft. plus $1.25 - $1.40 per sq. ft. in assessments, for 1/2- to 5-acre lots. Larger lots of 5 to 30 acres generally sell in the $5.00 to $5.50 per square foot range. These prices are significantly below finished industrial lot prices in most other areas of San Diego County, which generally range from about $9.00 - $15.00 per sq. ft. As indicated previously, we recommend that Otay Ranch industrial park lots generally be priced at about $5.00 - $6.50 per sq. ft. (exclusive of assessments), which is below current Otay Mesa prices. The few large lots would be priced somewhat lower.

OFFICE MARKET ANALYSIS

Office space demand for Otay Ranch will consist of two components:

- Population-serving office tenants, which are primarily firms that serve the local area population such as real estate agents, escrow companies, insurance agents, dentists, doctors, attorneys, etc.

- Business-serving office tenants, which are generally larger space-using firms that serve regional or national markets largely comprised of other businesses.

The Otay Ranch population will generate demand for a certain amount of population-serving office space. Development of a significant amount of demand for business-serving office space on the Ranch will, on the other hand, be a difficult and lengthy process. Otay Ranch and the South Bay area will have to compete for tenants with the well-established office nodes in downtown San Diego, Mission Valley, Kearny Mesa, and University Town Center/Sorrento Valley.

These nodes, in addition to being well established, are centrally located with good access to businesses throughout the county. Otay Ranch has a competitive locational disadvantage because it is at the very southern edge of San Diego County. These established nodes, other than downtown, took many years to establish themselves as business-serving office locations, and space absorption in the initial years was very slow. The experience of many present office nodes in Southern California is almost uniformly one of difficult, slow initial growth because it is hard to attract major tenants to locate in new projects away from more centrally located, large, established concentrations of office space.

The outlook for business-serving office space absorption for Otay Ranch is thus one of slow, steady absorption over an extended period of time. We estimated this space absorption by projecting total business-serving office space absorption for the County, based on County employment projections. We then estimated the share of this space that the South Bay area and Otay Ranch could capture. Finally, we converted office space to land absorption using an FAR of .35, which is typical of low-rise office projects. The projections for the South Bay area are summarized in the following table:

		South Bay Area		
Year	County Office Space (million SF)	Space (million SF)	% of County	Annual Average Increase (SF)
1986	26.7	1.4	5.3%	-
1988	31.0	1.6	5.0%	70,100
1990	34.5	1.7	5.0%	82,800
1995	47.0	2.6	5.5%	172,100
2000	58.5	3.5	6.0%	185,500
2005	70.5	4.6	6.5%	214,300
2010	85.0	5.9	7.0%	272,800
2020	108.8	8.7	8.0%	275,900

A substantial portion of South Bay annual absorption is expected to go into low-rise and mid-rise office buildings located in business parks in Otay Mesa. We estimate that Otay Ranch can capture 15% of the South Bay absorption during the initial years of its office space development, and 20% after some office space has been developed and the rest of the Ranch is well under development. The Otay Ranch business-serving office absorption projections are summarized below:

Period	Capture of South Bay Space Absorption	Annual Average Otay Ranch Absorption		Cumulative Acres Absorbed
		Space (SF)	Acres *	
1991-1995	15%	25,800	2	8
1996-2000	20%	37,100	2	18
2001-2005	20%	42,900	3	33
2006-2010	20%	54,600	4	53
2011-2020	20%	55,200	4	93

* Using an FAR of .35

Demand for local population-serving office space was estimated using a demand factor of four square feet per person, which represents a typical demand in urban areas. Applying this factor to the growth in Otay Ranch population resulting from the projected housing unit absorption produces demand estimates of about 14,800 SF per year initially, increasing to 18,500 SF per year in the year 2000. Using a low-rise office FAR of .35 results in land absorption for local population-serving office space of 1.0 - 1.2 acres per year.

Estimated total office land absorption in acres for Otay Ranch is summarized in the following table:

Period	Annual Average Absorption			Cumulative Absorption
	Business Serving	Population Serving	Total	
1991-1995	2	1	3	12
1996-2000	2	1	3	27
2001-2005	3	1	4	47
2006-2010	4	1	5	72
2011-2020	4	1	5	122

The acres indicated above are in the form of fully serviced, graded lots or parcels.

The local population-serving office buildings and parcels should primarily be located as an integrated part of Otay Ranch shopping centers to make the buildings most accessible and convenient to the surrounding population. These office building parcels should be priced at the same prices set for shopping center sites, or $8.00 to $10.00 per SF.

Business-serving office buildings and parcels should be located in specific office park developments that have a minimum of several office buildings. These parks can be located either adjacent to major shopping centers in the center of Otay Ranch, along or near the freeway, or in the Otay Ranch industrial park. The parks should be located with good frontage on and visibility from major arterials, preferably at an intersection of two major streets. Since such corner

locations will be the best locations in Otay Ranch industrial park, office parcels should be priced somewhat higher than general industrial lots, or $6.50 - $7.50 per SF (exclusive of assessments). Office parcels located in office parks in central Otay Ranch can be priced at the retail site price range, or about $8.00-$10.00 per SF. Office parcels located in an office park near the freeway can be priced in the $9.00 - $11.00 per SF range.

RETAIL MARKET ANALYSIS

Demand for retail space in Otay Ranch will be generated primarily from the retail spending of Ranch households, with some additional demand coming from areas around the Ranch. A fairly complex series of calculations was used to estimate demand for retail building space. Following is a brief outline of the calculation process:

- Future increases in total retail spending were calculated for Otay Ranch households (primary market area) and the rest of South Bay (secondary market area). The spending estimates were based on average household income and the future growth in households.

- The capture of total retail spending by Otay Ranch retail facilities was estimated in various categories of retail expenditures.

- Typical average annual sales per square foot for these categories were applied to the category expenditures to estimate the number of square feet of retail building space that will be absorbed in Otay Ranch.

Building space absorption was converted to Otay Ranch shopping center site absorption by using an FAR of .25, which is typical for suburban shopping centers. The results of the absorption analysis are summarized in the following table:

Period	Retail Sales Expenditures ($ millions)*	Retail Space Absorbed (SF)	Acres Absorbed	Cumulative Acres Absorbed
1994-1999	$ 202.9	682,000	63	63
2000-2009	$ 412.6	1,388,000	127	190
2010-2020	$ 443.9	1,493,000	137	327

* Increase in expenditures during the period

In order to best serve the Otay Ranch community, this space should be distributed among the following three general types of shopping centers:

- Neighborhood center: Typically anchored by a supermarket and drug store, usually with 80,000 to 145,000 SF of building space on 8 to 14 acres. They are located centrally in neighborhoods of 2,000 to 3,000 households.

- Community center: Generally anchored by two or more large discount-type or home improvement stores, and ranging in size from 120,000 to 250,000 SF on 12 to 24 acres. Each center will serve a substantial portion of Otay Ranch households, and should be in a central location on a major arterial.

- Regional center: There probably will be only enough demand for one moderate-sized regional center serving Otay Ranch and the surrounding area. Such a center is typically anchored by three or more department stores, and ranges in size from 600,000 to 800,000 SF on 50 to 70 acres. This center should be located centrally in Otay Ranch at the intersection of two arterials or at a freeway offramp.

Neighborhood centers will be the first retail facilities needed on the Ranch as residential neighborhoods are built. When 8,000 to 12,000 homes are built they will support a community center. Adequate support for a regional center probably will not develop until Otay Ranch approaches buildout.

Our retail expenditure calculations did not include expenditures for autos and auto-related services. Toward the end of Otay Ranch buildout, the Ranch will probably support an auto mall of about 50 acres, which would include auto dealerships and other auto-related establishments such as repair shops, body shops and tire stores. This mall should be located centrally in the Ranch on a major arterial or freeway offramp.

A retail space distribution and phasing scenario for Otay Ranch might look like the following:

	1994-1999		2000-2009		2010-2019		Total	
Center Type	Number *	Acres	Number *	Acres	Number *	Acres	Number *	Acres
Neighborhood	3	38	6	75	5	67	14	180
Community	1	25	1	26	1	26	3	77
Regional	-	-	-	-	1	70	1	70
Subtotal	4	63	7	101	7	163	18	327
Auto Mall	-	-	-	-	1	50	1	50
Totals	4	63	7	101	8	213	19	377

* Number of centers

Sites for the retail centers should be sold as fully serviced, graded parcels. Neighborhood and community center sites in the area generally are selling for $8.00 to $10.00 per square foot, and Otay Ranch sites should be priced in this range. Regional center and auto mall sites in Southern California are generally priced at $2.50 to $4.50 per square foot, which is appropriate pricing for the Ranch sites.

OTHER COMMERCIAL USES

Our analyses did not cover the demand for specialized commercial uses such as a destination resort, tourist-oriented specialty retail, hotels, bowling alleys, skating rinks, etc. There may be demand for such uses, and their sites, as the Otay Ranch develops.

EXHIBIT
B

LAND USE STRATEGIES FOR MORE LIVABLE PLACES

3

LAND USE STRATEGIES FOR MORE LIVABLE PLACES

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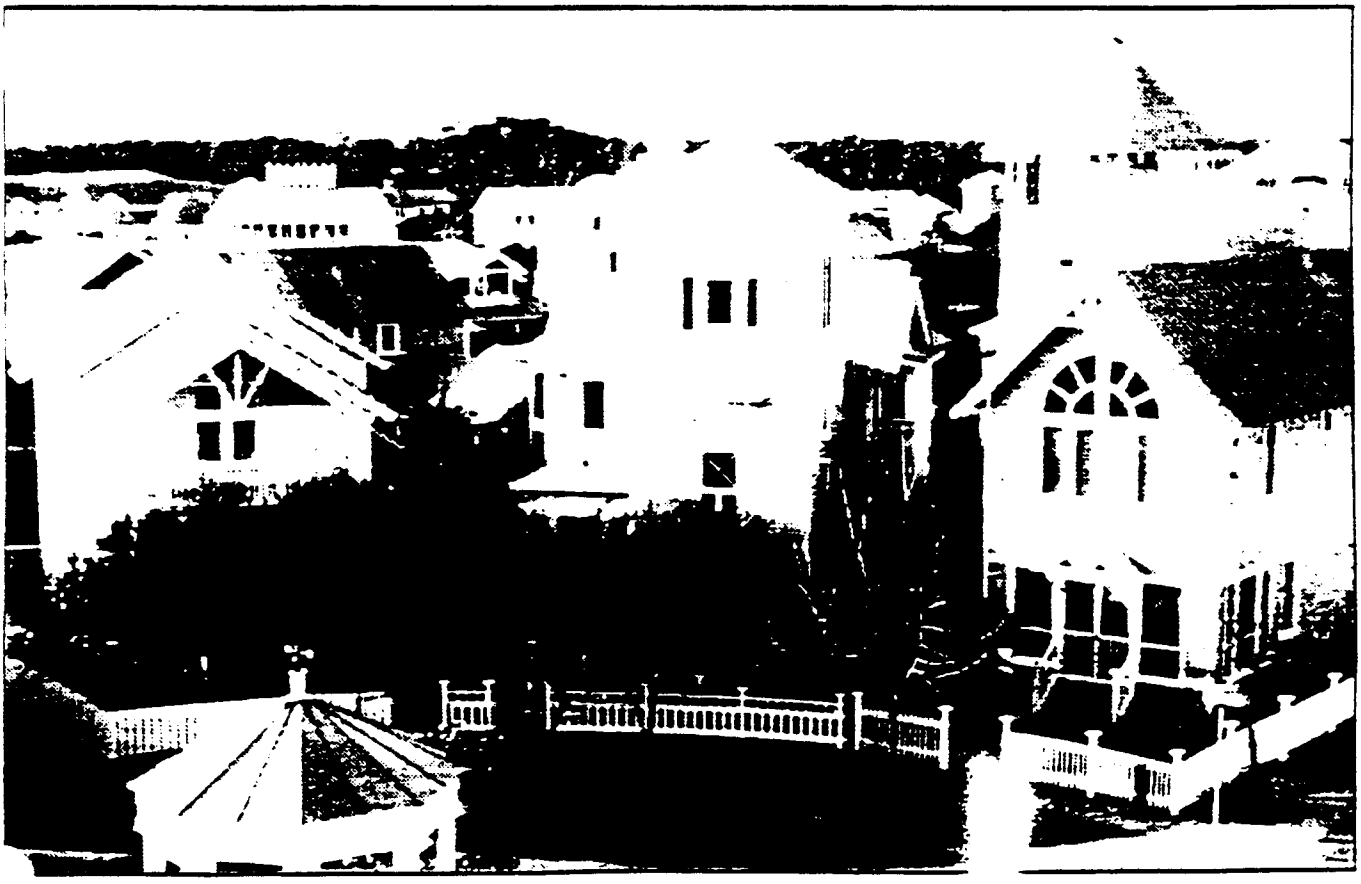
Contents

Housing for an automobile society



Housing for a pedestrian society

Executive Summary

The Problem

Forty years ago, California was a state dominated by compact communities, from rural places like Fort Bragg, to towns like Pasadena, to cities made up of distinct neighborhoods. Communities were distinct from one another, separated by open space. Today, in response to demands for more rural lifestyles, greater mobility, and affordable housing, we have filled our agricultural valleys with houses, spread communities across the deserts and hills, and choked our freeways with cars. The side effects have been severe: polluted air, neighborhoods with no sense of community, homes that separate children from parents with endless commutes, and vanishing farmland, wildlife habitat and open space. Because of the way we are growing, the social and the physical structure necessary to support a thriving economy in the State has begun to fall apart.

The Solution

California is expected to absorb millions of new residents in the next decade. We urgently need to identify a different strategy for accommodating this growth. There is a growing consensus among groups as disparate as environmentalists and the building industry, the manufacturer's association and minority groups that new development must become more "compact", be of mixed uses and pedestrian-oriented.

By drawing on the best features of our older neighborhoods and the best ideas of innovative architects and planners, we can improve built-out communities and design new ones in ways that will empower and encourage people to move about without using their cars — by allowing a greater variety of land uses closer to work and home, by providing more successful walkways and bicycle pathways, by bringing people and transit closer together and by stopping the proliferation of sprawl development across rural land.

How do we accomplish this? We must move beyond "piecemeal planning" where local officials react to new development on a project by project basis. Instead, cities and counties will need to initiate the planning of new and changing neighborhoods. General plans and zoning ordinances will have to be revised and it will be necessary to make more use of specific plans and other creative planning tools. We will need to involve each community's citizens in the planning process. We must coordinate these plans with neighboring jurisdictions to make regional transit systems become viable. Local leaders must begin to take charge.

Implementing the Solution: The Ahwahnee Principles

A group of noted architects and designers of pedestrian-oriented and transit oriented communities, working with the Local Government Commission, has developed a set of planning principles and implementation measures which, we believe, provide a blueprint for planning more livable places. First presented to a gathering of elected officials at Yosemite's Ahwahnee Hotel, they have been titled the Ahwahnee Principles.

The principles apply equally to infill development, redevelopment and new development. Taken individually, they are hard not to like. However, the principles do not stand alone. Like pieces of a puzzle, each is critical to our success. They are as follows:

Community Principles:

- **All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of the residents.**

- **Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.**

- **As many activities as possible should be located within easy walking distance of transit stops.**

- **A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.**

- **Businesses within the community should provide a range of job types for the community's residents.**

- **The location and character of the community should be consistent with a larger transit network.**

- **The community should have a center focus that combines commercial, civic, cultural and recreational uses.**

- **The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.**

- Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.

- Each community or cluster of communities should have a well defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.

- Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting; and by discouraging high speed traffic.

- Wherever possible, the natural terrain, drainage, and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.

- The community design should help conserve resources and minimize waste.

- Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.

- The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community.

Regional Principles:

- The regional land use planning structure should be integrated within a larger transportation network built around transit rather than freeways.

- Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.

- Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.

- Materials and methods of construction should be specific to the region, exhibiting continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

Implementation Principles:

- **The general plan should be updated to incorporate the above principles.**

- **Rather than allowing developer-initiated, piecemeal development, local governments should take charge of the planning process. General plans should designate where new growth, infill or redevelopment will be allowed to occur.**

- **Prior to any development, a specific plan should be prepared based on the planning principles. With the adoption of specific plans, complying projects could proceed with minimal delay.**

- **Plans should be developed through an open process and participants in the process should be provided visual models of all planning proposals.**

Communities Where They Are Leading The Way

A number of communities throughout the nation have begun to implement the principles stated above. Sacramento County has drafted a groundbreaking general plan which could well serve as a model for the implementation of the Ahwahnee Principles. It establishes areas for permanent open space, identifies areas for infill and new growth and creates a grid of transit options so that everyone in the county can get where they are going by rail or bus. Design guidelines specify that both infill and new growth will be compact and pedestrian oriented.

Similar, more localized efforts abound. The Town of Loomis has adopted a specific plan for their downtown to create a compact, mixed-use, pedestrian oriented, community core. The Cities of San Jose and San Diego are working to concentrate development around light rail stops. Pedestrian-oriented, mixed-use neighborhoods which look like those built in the U.S. before World War II are making a reappearance on both coasts. These efforts provide important working models from which we can learn a great deal in our crucial mission to plan more livable places.

The Transportation Challenge

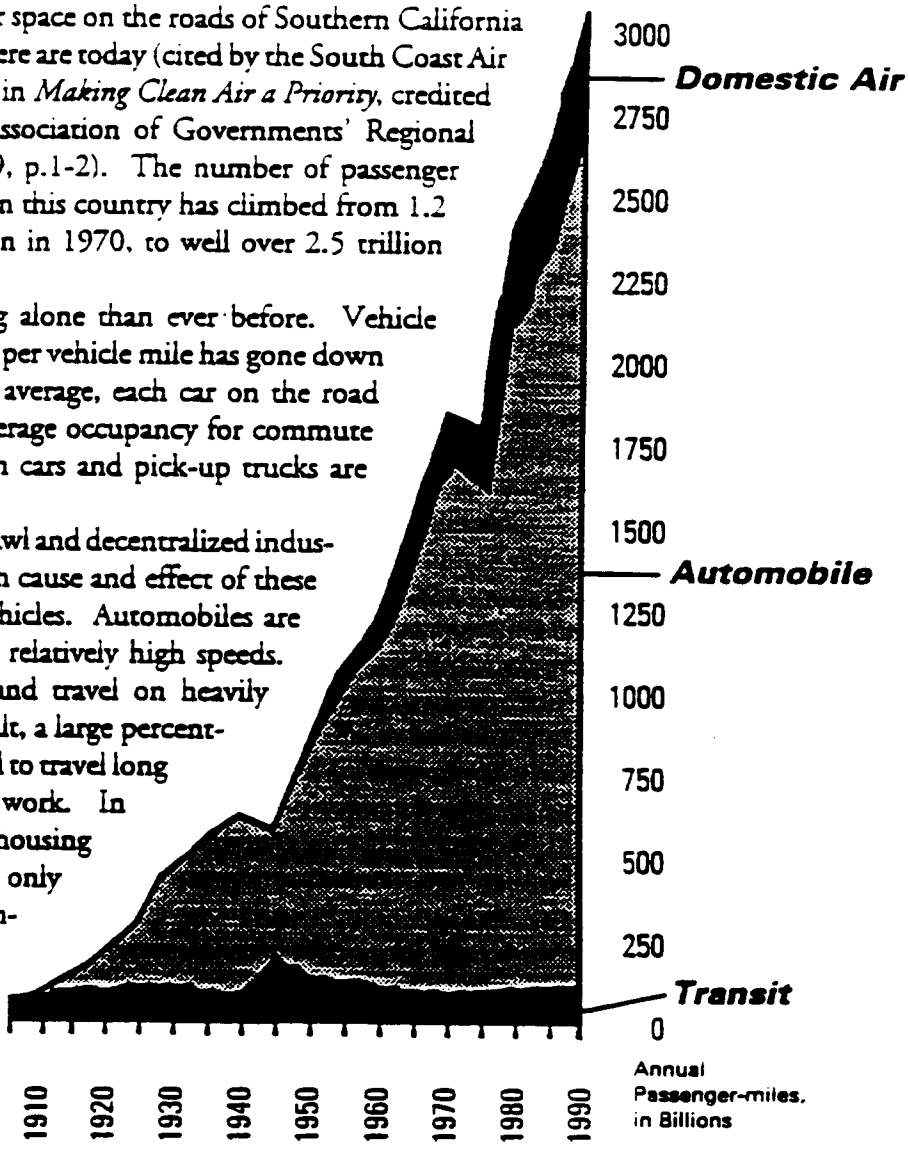
1

How We Use Our Cars

We are continually reminded of the economic, political and environmental reasons that we must reduce our reliance on fossil fuel. Yet our dependence on private automobiles, which burn most of that fossil fuel, continues to grow. For example, unless we change our ways, there will be 40% more vehicles fighting for space on the roads of Southern California twenty years from now than there are today (cited by the South Coast Air Quality Management District in *Making Clean Air a Priority*, credited to the Southern California Association of Governments' Regional Mobility Plan, February 1989, p.1-2). The number of passenger miles travelled in private cars in this country has climbed from 1.2 trillion in 1960 to 1.65 trillion in 1970, to well over 2.5 trillion today.

More people are driving alone than ever before. Vehicle occupancy measured in people per vehicle mile has gone down almost 20% since 1977. On average, each car on the road contains 1.55 people. The average occupancy for commute trips is 1.1. Over 100 million cars and pick-up trucks are driven to work each day.

Suburban residential sprawl and decentralized industrial development stand as both cause and effect of these trends in the use of private vehicles. Automobiles are versatile and convey people at relatively high speeds. Drivers face low fuel prices and travel on heavily subsidized roadways. As a result, a large percentage of the population can afford to travel long distances between home and work. In response, developers can sell housing that is increasingly distant not only from historical population centers but also from the goods and services needed to support a community. People have become increasingly dependent on cars not only to get to and from the workplace, but



Estimated Passenger Miles of Travel in the United States

to visit their neighbors or buy a carton of milk. A quick look at the way we have been designing our communities in the last 40 years tells us why. Most new suburban subdivisions have been designed to cater to users of private vehicles. Disconnected routes with little or no walking area, large lots, multi-lane arterial streets, scattered destinations and shopping malls with acres of parking make it far easier and more appealing to move by car than by any other means.

Cars, Culture and the Quality of Life

"Congestion in major urban areas is growing about 15% per year."

California Department of Transportation

As businesses have moved to the suburbs, commute patterns have become hopelessly complex; commuters travel from suburb-to-suburb, from suburb-to-city, or from city-to-suburb. Instead of dispersing congestion, this trend has created new bottlenecks and interfered with the ability of mass transit to reduce private vehicle use. According to the California Department of Transportation, congestion in major urban areas is growing about 15% per year. If current trends continue, by the year 2010, half of all road travel will occur under congested conditions. Congestion, added to longer distances between work and home, means that people spend more and more time in their cars. As a result, workers are less productive, families have less time to spend together, and we all have less leisure time. As planners Samuel Pool and Victor Dover have pointed out, a parent who spends two hours per day in a car for commuting and other purposes loses 2 years of parenting time in the 18 years between childbirth and college age. They also point out that, according to US Department Of Transportation statistics, the average family in 1986 spent 25% of its income on owning and operating cars. A second car requires about $7,000 in annual gross income.

Government often responds to traffic congestion by widening existing roads or building new ones. But when land is used for roads, it cannot be used for housing, business and open space. By some estimates, as much as 50% of the land in urban communities is covered with the concrete and asphalt needed to serve the automobile. Yet, more roads are not an answer to congestion. They are just a means of moving more cars toward a given destination. That is because more roads tend to encourage more people to drive. Soon, there are just more places where congestion is a problem. As someone else once put it, building more roads to control congestion is like loosening your belt to control obesity.

Women are heavily affected by our expanding use of automobiles. More often than not, women carry most of the responsibility for raising children. Today, this can often mean serving as primary chauffeur, since a child's daily activities may be as effectively scattered as those of an adult. In a recent preliminary study, the U.S. Department of Transportation reports that the number of miles driven by the average woman has increased 47% in the last 8 years.

Our patterns of development create disadvantages for men as well. Jane Jacobs discussed this problem in her landmark book, *The Death and Life of Great American Cities*, Vintage Press, New York (1961), when she said:

"Most city architectural designers and planners are men. Curiously, they design and plan to exclude men as part of normal, daily life wherever people live. . . Working places and commerce must be mingled right in with residences if men. . . are to be around city children in daily life—men who are part of normal daily life as opposed to men who put in an occasional playground appearance while they substitute for women or imitate the occupations of women."

Our automobile-dependent society does not treat all people equally. The homes needed for workers and the offices offering jobs are often located many miles apart. Those who would fill lower paying jobs may not be able to afford the car needed to get to work, contributing to unemployment while keeping many jobs vacant. Mass transit may not be an option when the workplace is not centrally located and a bus ride may take hours. In addition, large suburban homes are unaffordable for most Americans.

While there is a reason for us to segregate some uses, we have gone too far. Heavy industrial activities - refineries, heavy manufacturing, agricultural product processing and the like must be segregated because they use hazardous chemicals, create noise, emit odors, and/or use dangerous equipment. However, most of our economy is now based on the service sector, consisting of activities which need not be located miles from residential neighborhoods.

Because suburbs segregate uses, because communities are not designed to keep eyes on the streets at various times of the day and night, and because job centers often become ghost towns after 6 PM, these areas are less safe. The result is increased flight from communities near job centers and more seemingly intractable crime problems.

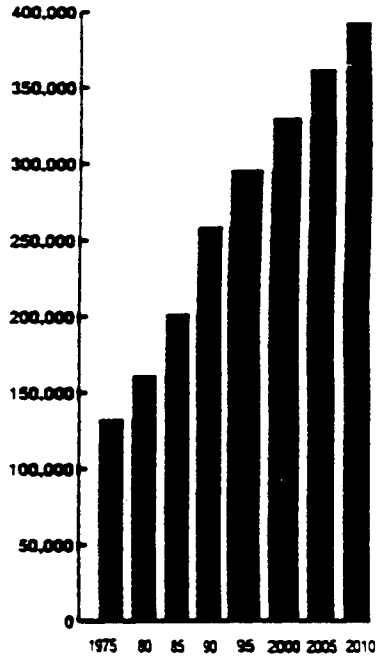
Sprawl development threatens the preservation of open space. We need non-urbanized places to grow our food, preserve animal and plant species, allow storm run-off to replenish groundwater tables and reduce the concentration of air pollutants. We need parks and other open places to feel the sun, to see and smell green plants and flowers, to gather together, to play.

Finally, the patterns of development that have prevailed in the last several decades have threatened our sense of community and dampened our sense of commitment. Philip Slater focused on suburbia in *The Pursuit of Loneliness*, Beacon Press (1970), when he said:

"I would like to suggest three human desires that are deeply and uniquely frustrated by American culture:

(1) The desire for community - the wish to live in trust and fraternal cooperation with one's fellows in a total and visible collective entity.

(2) The desire for engagement - the wish to come directly to grips



Annual statewide (California) vehicle miles travelled in millions

with social and interpersonal problems and to confront on equal terms an environment which is not composed of ego-extensions.

(3) The desire for dependence - the wish to share responsibility for the control of one's impulses and the direction of one's life."

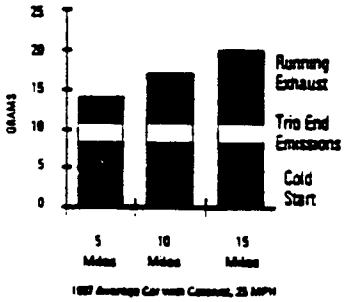
In neighborhoods where we only come to sleep, where there are no sidewalks and visitors are only greeted by a garage door, it is often hard to find a community at all. It is hard to feel the support and protection provided by interdependence. It is hard to feel engaged with local politics or local concerns or to involve ourselves in local activities such as youth soccer or baseball.

Automobiles and Air Pollution

We continue to use our cars more and more. While the population grows by 2% per year, the number of miles travelled in automobiles grows at a 5% rate.

Every mile hurts. For instance, according to the California Air Resources Board (ARB), in 1987, the average car emitted 0.6 grams of hydrocarbons into the atmosphere for each mile travelled. As disquieting as these numbers might be, all those short trips to the market, school or the gym can be even worse. The ARB reports that 11 grams of hydrocarbons are released just by starting a cold engine.

Hydrocarbon Emissions By Trip



And, of course, the more we drive, the more crowded the roads get. Driving in traffic jams makes cars much less efficient and results in much more pollution. According to the ARB, when a traffic jam turns an 11 minute, 10 mile trip into a 30 minute trip, hydrocarbon emissions increase by 250%.

What is all of this driving doing to the air? The ARB estimates that cars and trucks contributed 43% of the reactive organic gases (ROG), 57% of the nitrogen oxides (NOX), and 82% of the carbon monoxide (CO) emitted during 1987 in the major urban areas of Califor . Reactive organic gases and nitrogen oxides respond to the presence of sunlight by forming ozone, a major ingredient of smog. And of the airborne particulates which are directly emitted from both stationary and mobile sources, over half are dust kicked up by motor vehicle activity on roadways.

The Role of Transit

There is considerable interest in the role of fixed-rail transit in reducing our dependence on automobiles. This interest is understandable. Trains are more energy-efficient in operation than cars and buses because they move on tracks at regulated speeds and carry more passengers. Often, they provide rapid travel by using dedicated rights-of-way. They can help shape land use planning and business decisions because they create a sense of permanence. Many of the communities that cannot afford a rail transit system offer public buses. All of the places that have rail systems also have bus systems. Most of the factors affecting the success of a fixed-rail system also affect the success of a bus system. While

the need to encourage walking, bicycle riding, carpooling and telecommuting is common to all communities, it's important to consider how our land use decisions add to or detract from our efforts to promote transit ridership.

Why Rail Transit Alone Does Not Clear the Roads

When the Bay Area Rapid Transit System (BART) first began to provide train service to San Francisco commuters, the number of car owners using the Bay Bridge to drive into the city went down dramatically. Soon, however, the Bay Bridge was crowded again. Over the years, BART ridership has increased somewhat, but the roads have become more congested than ever.

BART clearly took drivers off the road. Yet it seems that if everything else remains the same, more people are willing to drive their cars when roads are less congested. Like a new freeway, mass transit enables more people to move more quickly toward a given destination. Unlike the hidden costs of using a freeway, the passenger's out-of-pocket cost for mass transit is obvious and the times and places where transit can be used are more limited.

The introduction of mass transit alone will not eliminate congestion. It only makes a dent when it is the preferred alternative. To be successful, mass transit must be the most convenient and least expensive way to go.

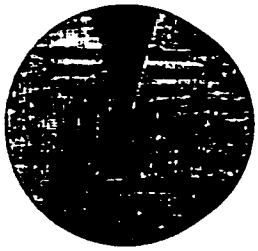
Why More People Don't Use It

Nationally, the most successful fixed-rail transit systems are the subways and commuter trains in the older eastern and midwestern cities. In New York City, for instance, over a quarter of those going to work get there on public transit (Washington D.C. is tops in the nation, at 38%). But the population trends in the decades since World War II have carried more people to the southern and western portions of the nation, to places where rail transit has not been built, or older systems have been abandoned.

Among the areas in California with fixed-rail systems, the San Francisco Bay Area leads the pack with over 10% of its commuters using public transit. But statewide, only 5.8% of commuters rely on public transit. Largely, growth in California is concentrated in the suburbs and investment in fixed-rail transit has not kept up. Housing is dispersed and suburban job development has taken the focus off of the urban core, which has traditionally been the center of transit development. In short, too few people live and work close to transit stops.

According to the results of a survey recently conducted by the City of San Diego, 91.2% of the people get to work by car, 3.1% bike or walk, and 4.2% take public transit. But when downtown commuters are compared to the rest of the population, a different story is told. Over 14% of the downtown workers use public transit to get to work.

People often choose to take their cars to work because they have other things to do besides getting to and from the job. Sometimes a car is the only practical means of getting to an interesting place for lunch, or finding a shoe repair shop, or picking up groceries on the way home. We use cars more often



San Diego Citywide Mode Split for Commuters

San Diego Downtown Mode Split for Commuters After Recent Lightrail Improvements

because our transportation needs are complex. The kid's school may not be in the same part of town as the doctor. The places where we shop may not all be open at the same time. It becomes difficult to perform auto-dependent tasks in clusters.

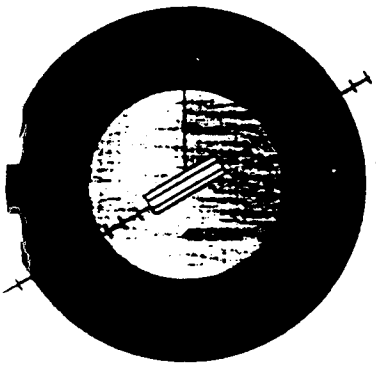
Many people take their cars wherever they go to provide themselves with greater flexibility. Cars can go just about anywhere. And if your trusty car is by your side, it's easier to change your mind about where you are going next.

Better land use planning can help address all of these issues. For instance, in reflecting on the greater tendency for downtown workers to use public transit, the City Manager of San Diego identified the following factors:

- the downtown area is pedestrian-oriented
- outlying employment centers are auto-oriented with readily available and generally free parking
- the mix of uses downtown encourages pedestrian activity
- the density of employees across the downtown area is two or three times that of the outlying employment centers
- downtown serves as the hub for the regional bus and lightrail transit system
- more downtown employers subsidize employee transit costs than in other areas of the city

But how about that old villain, "lifestyle"? Some people argue that Americans simply love their cars and won't do without them. As the story goes, people like the privacy and the sense of independence that comes with locking the door, turning the key and playing the radio.

But in the final analysis, isn't this really a matter of economics? Among those who have a choice, most people now prefer private automobiles to the alternatives. But if public transit was faster and more convenient and if the daily cost of driving was clearly more expensive than the alternatives, how many people would stick to their cars as a matter of lifestyle choice?



Housing Density Needed to Support a Fixed Transportation System

Public transit cannot be faster and cheaper without ridership support. And people will only support public transit if it is conveniently located. Boris Pushkarev and Jeffrey Zupan discuss this problem in their 1977 book, *Public Transportation and Land Use Policy*. As communities become more compact, the demand for public transit increases. Where there are more people, cars become both less convenient and more costly. According to Pushkarev and Zupan, to support transit, the general rule is there must be at least seven units of housing per acre and the downtown area must contain at least 10 million square feet of office space. For very frequent bus service, a community needs at least 8 units per acre. A study published in 1990 for the North Carolina Department of Transportation found that to support a fixed guideway system, a community should have 43 units of housing per acre within one-eighth mile of a station and 10 units per acre in the next one-eighth mile.

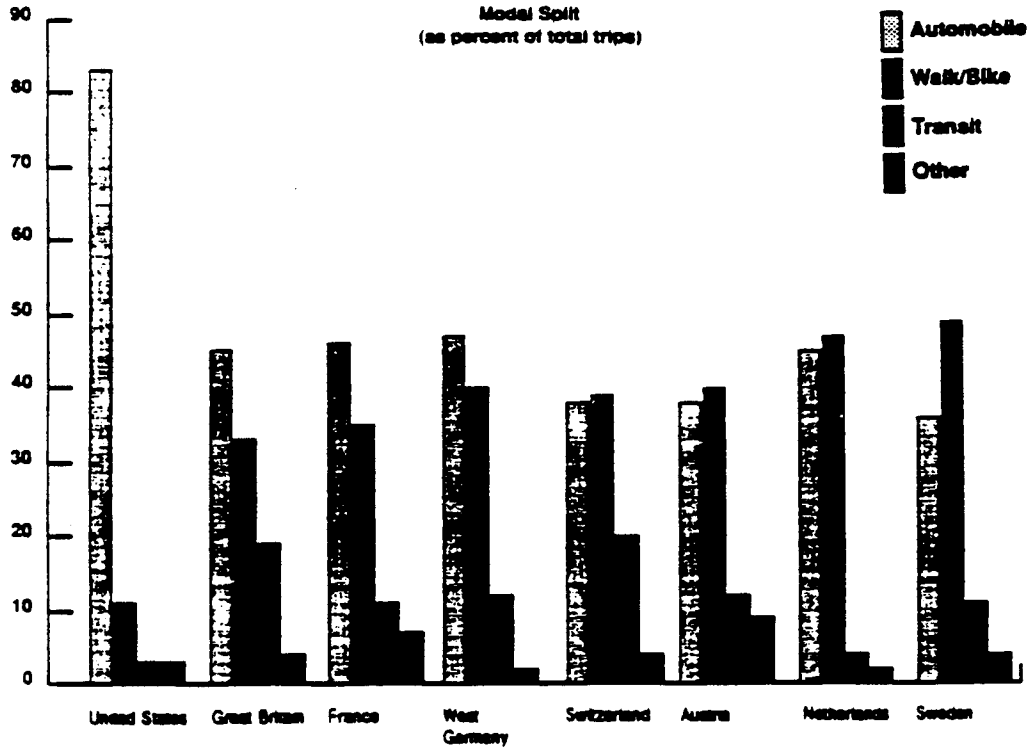
Considering the size of most suburban lots, it should be no surprise that public transit often lacks the ridership necessary to support more frequent service at lower prices. This data also suggests rapid transit systems will never be self-supporting unless more people are able to live closer to transit stops.

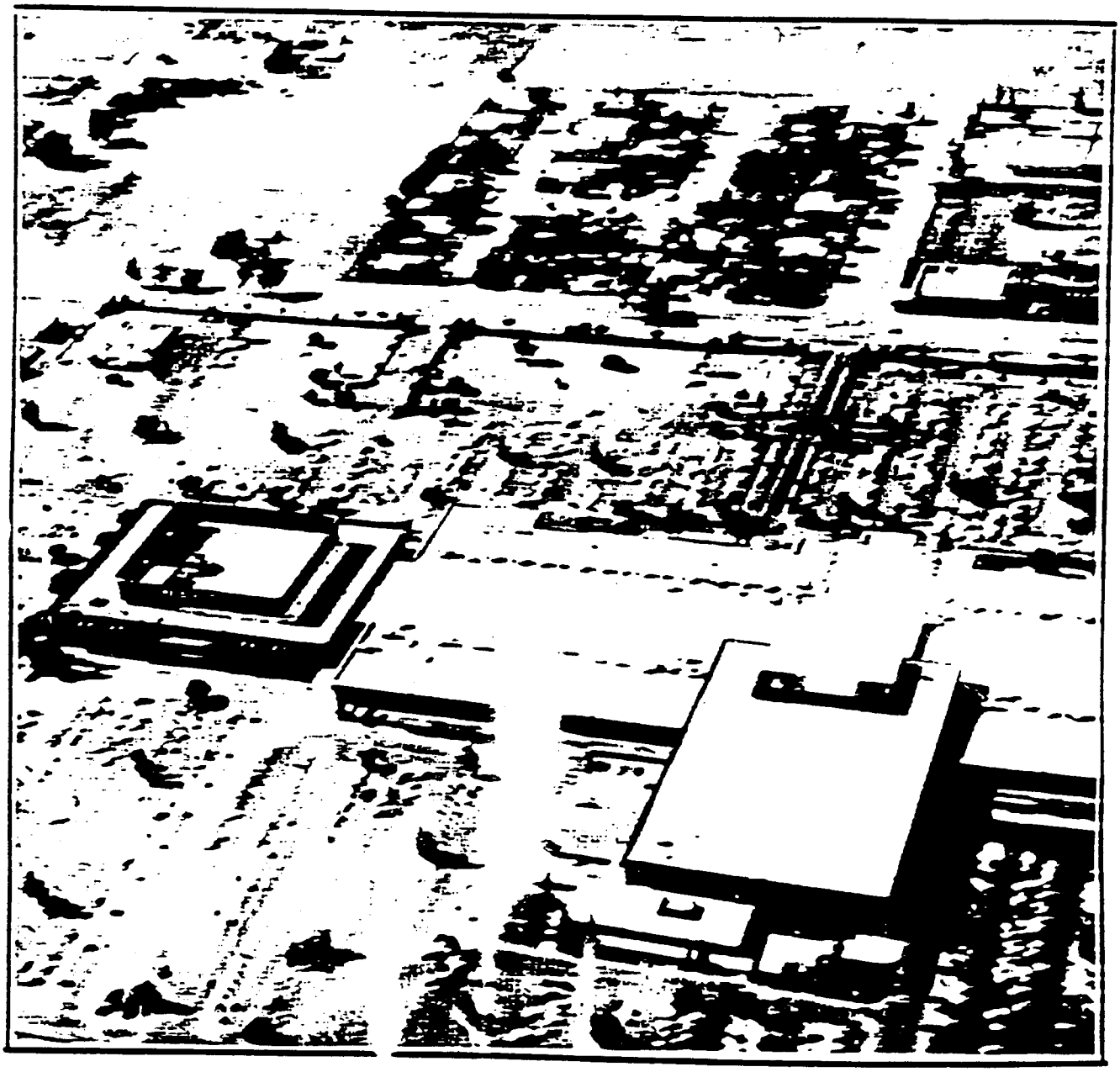
And what about the comparative cost of driving a car? The cost of driving is artificially low because the use of automobiles is so heavily subsidized. We pave and maintain streets and then allow cars to use them for free. Yet, when we build light rail systems, we are concerned because fair box receipts may not cover the cost of the system. Shopping centers absorb the cost of acres of free parking and downtown stores and restaurants validate parking garage tickets. Yet, how many commercial establishments reimburse people for bus fare? Gasoline taxes do cover some costs of driving, but most costs are absorbed by businesses and general tax revenues. We have not begun to charge automobile users for the environmental damage that they cause.

"The cost of driving is artificially low because the use of automobiles is so heavily subsidized"

Even today, people usually spend more money driving to their destinations than they would spend on public transit. This is not surprising, since most people drive alone and transit costs are subsidized as well. However, for most people, the subsidized cost of driving is attractive enough to encourage the use of private cars. If air districts and local governments remove automobile subsidies, the difference in cost will motivate more people to use public transit.

The result of our public policy preference for automobiles is not a surprising one. Based on data accumulated by John Pucher from various sources, here is how U.S. transportation habits compare with those of other nations:





How Land Use Decisions Affect Automobile Dependance

2

Sprawl

Communities planned since World War II lack well-located shops and services. A hallmark of suburban sprawl is that uses of the land are segregated. Homes are in one place, schools and parks in another, and shops and services are somewhere else. As a result, people use their cars to accomplish even the most basic tasks. In addition, since shops and services are not often grouped together in a logical way, the number of short trips tends to multiply.

Friends are scattered so even social travel depends on cars. How do friendships develop in our society? We meet people at school, at work, in our communities. When we live in sparsely populated areas, public schools have to serve a wider geographic area. School friends will be likely to live further apart. When we commute one or two hours from home to job center, our work-related friends might live an equal distance in the opposite direction. The result? We have to spend more time travelling by car just to visit with our friends. And the long commute reduces the time we have available to spend with friends and family in the community.

Suburban Job Centers

Increasingly in the last few years, office and light-industrial site development has moved away from the traditional urban core and out into the suburbs. The larger complexes tend to attract multistory office buildings, shopping malls and hotels. Characteristically, these offices, shops, and hotels are separated from the street by large parking lots and movement from one place to another can only comfortably be accomplished by car. One writer (Joel Garreau) has given these places a name. He calls them "edge cities" and suggests that they are becoming the predominant physical and cultural form in this country. Some such places are now bigger than the traditional cities that are their closest neighbors.

One might think that if jobs are concentrated in the suburbs, more people will be able to live closer to work and commutes will shrink. Planning Professor Robert Cervero has found that "despite the steady migration of jobs to the suburbs over the past decade, many suburban residents commute farther than ever." (*APA Journal Spring*, 1989, p.136). Cervero attributes this to several factors: exclusionary zoning that leads to an undersupply of housing, rents and housing costs that price many service workers out of the residential markets near their jobs, and the growth in two-worker households.

"Despite the steady migration of jobs to the suburbs over the past decade, many suburban residents commute further than ever."

Robert Cervero

Recent studies also suggest that even where suburban jobs are clustered near rail transit stops, few workers will use transit to get there. Perhaps that is because our existing rail transit system focuses on the traditional urban core. The places where suburban workers live are less likely to be served by convenient rail transit that would take those workers to their jobs. For example, compare the options of a worker in downtown Oakland with those of a worker in suburban Walnut Creek. There are many more places to live within 10 miles of downtown Oakland that are close to the transit system (BART) than there are within 10 miles of Walnut Creek.

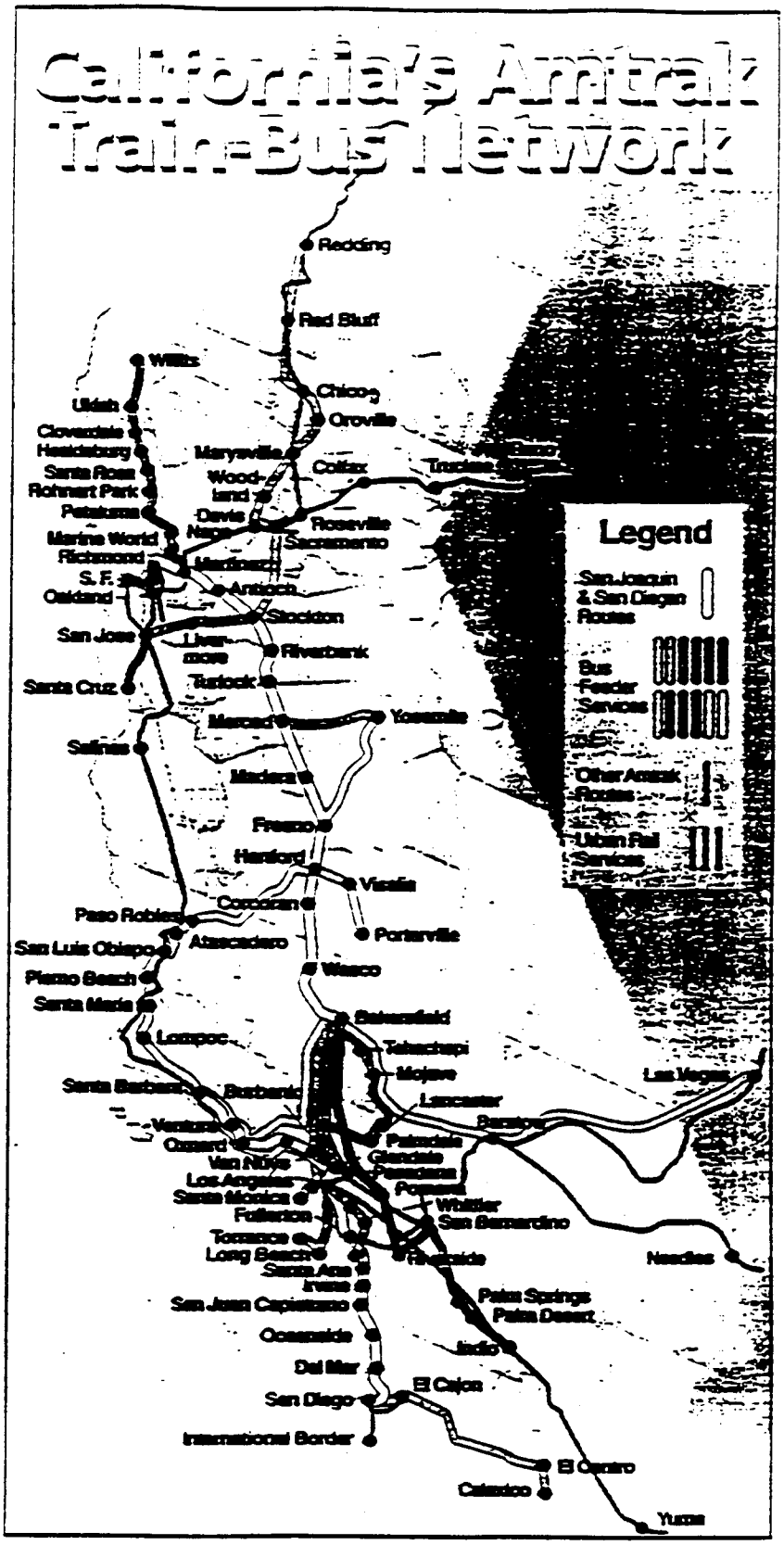
Suburban job centers are seldom walkable. The worker in a suburban tower is more likely to be provided with a jogging path along a creek than a short, safe walkway to restaurants and shops. Even people who live close-by are often motivated to drive to work rather than attempt to cross a six-lane arterial road, or navigate a series of parking lots along the way.

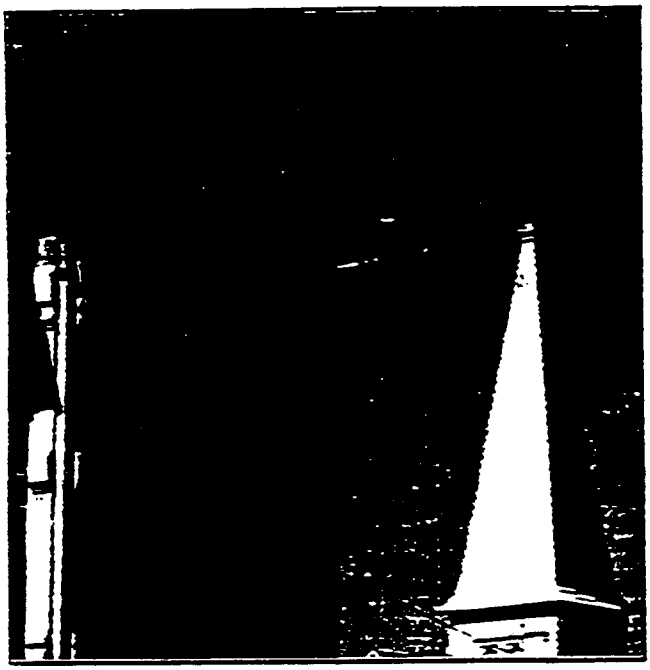
For all of these reasons, most of those who work in suburban job centers depend on their cars — to get to work and home, and to gain access to food and services throughout the day.

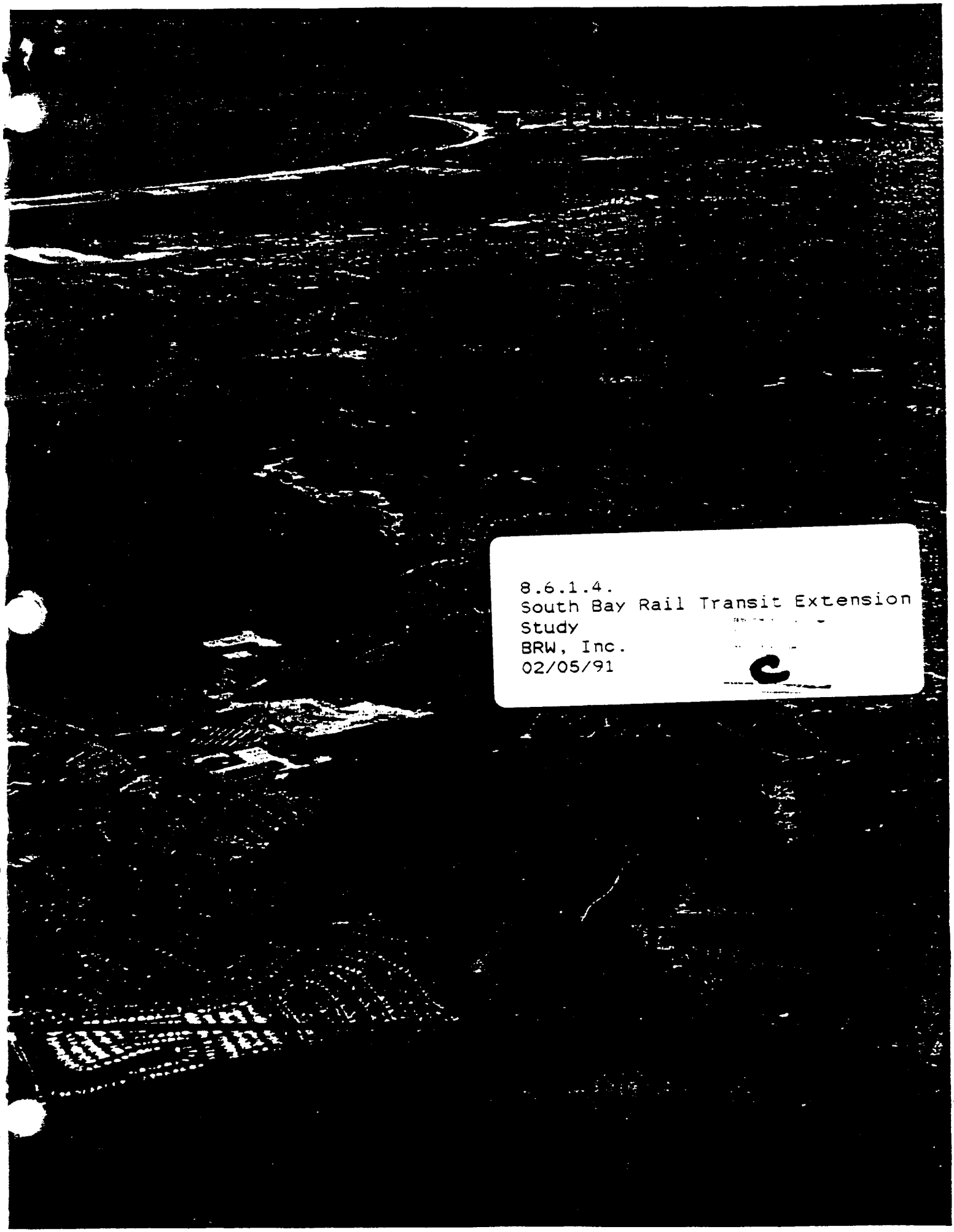
Lack of Transit Corridor Planning

In the era of streetcars, tracks were often laid before communities were built and the streetcar route heavily influenced the form that development took. This trend was discussed in the North Carolina Department of Transportation's Transit/Land Use Study for the Research Triangle area. Development was drawn to the streetcar route. The resulting communities were compact, with a well established pattern of mixed residential and commercial uses along a relatively narrow corridor. Pedestrian movement was emphasized.

In contrast, newer rail transit systems have been built in response to congestion and environmental concerns. This has involved an effort to adapt mass transit to existing land use patterns, which are characterized by suburban sprawl. In many cases, instead of putting transit in places where new development was most promising, tracks were laid where right-of-way was available. "As a result," according to the North Carolina study, "these systems were built into an environment that could not fully support their operation." While it would seem logical that land use planners and transit authorities coordinate their activities, this has typically not been done.


California's Amtrak Train-Bus Network
Redding
Red Bluff
Willits
Chico
Oroville
Ukiah
Cloverdale
Healdsburg
Santa Rosa
Rohnert Park
Petaluma
Marine World
Richmond
S.F.
Oakland
San Jose
Santa Cruz
Marysville
Wood-land
Davis
Napa
Vallejo
Antioch
Stockton
Live-more
Riverbank
Turlock
Merced
Yosemite
Salinas
Madera
Fresno
Hanford
Visalia
Corcoran
Paso Robles
Atascadero
San Luis Obispo
Pismo Beach
Santa Maria
Lompoc
Santa Barbara
Ventura
Oxnard
Van Nuys
Los Angeles
Santa Monica
Burbank
Porterville
Wasco
Bakersfield
Tehachapi
Mojave
Lancaster
Palmdale
Glendale
Pasadena
Pomona
Whittier
Fullerton
San Bernardino
Torrance
Long Beach
Santa Ana
Irvine
San Juan Capistrano
Oceanside
Del Mar
San Diego
International Border
Riverside
Palm Springs
Palm Desert
Indio
El Cajon
El Centro
Calexico
Yuma
Needles
Las Vegas
Truckee
Colfax
Roseville
Sacramento
Legend
San Joaquin & San Diegan Routes
Bus Feeder Services
Other Amtrak Routes
Urban Rail Services





8.6.1.4.
South Bay Rail Transit Extension Study
BRW, Inc.
02/05/91

1.0 Introduction and Summary

This report documents the analyses and results of the ***South Bay Rail Transit Extension Study***. The study, conducted for the San Diego Association of Governments (SANDAG), was undertaken with major participation and cooperation between the consultants, agency staff members, South Bay property owners and elected officials.

This chapter provides an overview of the project and summary of key findings and recommendations.

1.1 STUDY PURPOSE

The purpose of the ***South Bay Rail Transit Extension Study*** is to evaluate the feasibility of expanding the existing and programmed rail transit services in the region to meet future transit demands in the South Bay.

The ***Short Range Transit Plan*** for the area proposes express bus service in the I–805 corridor, to be implemented in fiscal year 1994. Neither this short range plan nor the long–range ***Regional Transportation Plan*** recommends extension of regional (inter–community) transit routes into the areas east of I–805 at this time. The conclusions and recommendations of the South Bay Rail Transit Extension Study will provide the basis for modifying the long–range Regional Transportation Plan.

Funding for the study was provided through the TransNet local transportation sales tax program. A South Bay transit evaluation was one of the projects specifically identified in the ballot proposition approved by the voters in November 1987.

1.2 STUDY DIRECTION

This study was conducted by SANDAG with input from the Metropolitan Transit Development Board (MTDB), Caltrans, San Diego Unified Port District, San Diego County, and the Cities of Chula Vista, Imperial Beach, Lemon Grove, National City and San Diego.

A Policy Advisory Committee was formed to offer direction throughout the study. The Chairman of MTDB and elected officials from the County and each of the affected cities served on this committee.

The Technical Advisory Committee was composed of staff and interested parties from a much broader group. In addition to agency representation, the development community and civic organizations such as the Sierra Club and the South Bay Transportation Coalition served as committee members to provide review and input.

1.3 STUDY LOCATION/BACKGROUND

The South Bay study area addressed in this study is shown on Figure 1-1, along with the year 2010 highway network for the area. A number of jurisdictions are wholly or partially contained in the South Bay and project study area, including the County of San Diego and the Cities of Chula Vista, Imperial Beach, Lemon Grove, National City, and San Diego.

The area south of State Route (SR) 54, the South Bay Freeway, is forecasted to grow from 223,600 to 364,900 residents by the year 2010, with employment increasing from 53,000 to 112,900 jobs in the same period. In addition, the Otay Ranch and other major new developments will provide land for additional new development well beyond the horizon year of the 2010 forecast. Approximately 85 percent of the population growth through the year 2010 will occur to the east of Interstate 805, from Bonita south to the international border with Mexico. By the year 2010, 45 percent of the South Bay study area residents and 41 percent of the South Bay jobs will be located east of I-805.

In addition to I-805 and I-5, the study area will be served by one new north-south freeway (SR-125) and two east-west freeways: SR-54 in the northern portion of the area and SR-905 in the south. Right-of-way will be reserved for High Occupancy Vehicle (HOV) lanes in all three of these freeway facilities. The State Transportation Commission has recently selected SR 125 as one of three toll-road demonstration projects to be privately constructed.

The Chula Vista General Plan proposes additional east-west arterials to serve the area and provide access across I-805 into the older portion of the City. Although several additional north-south arterials are proposed, these streets do not cross the Otay River to provide a connection from the eastern parts of Chula Vista to the industrial areas on Otay Mesa. Access to Otay Mesa, within the City of San Diego, will primarily be from SR-125 and SR-905.

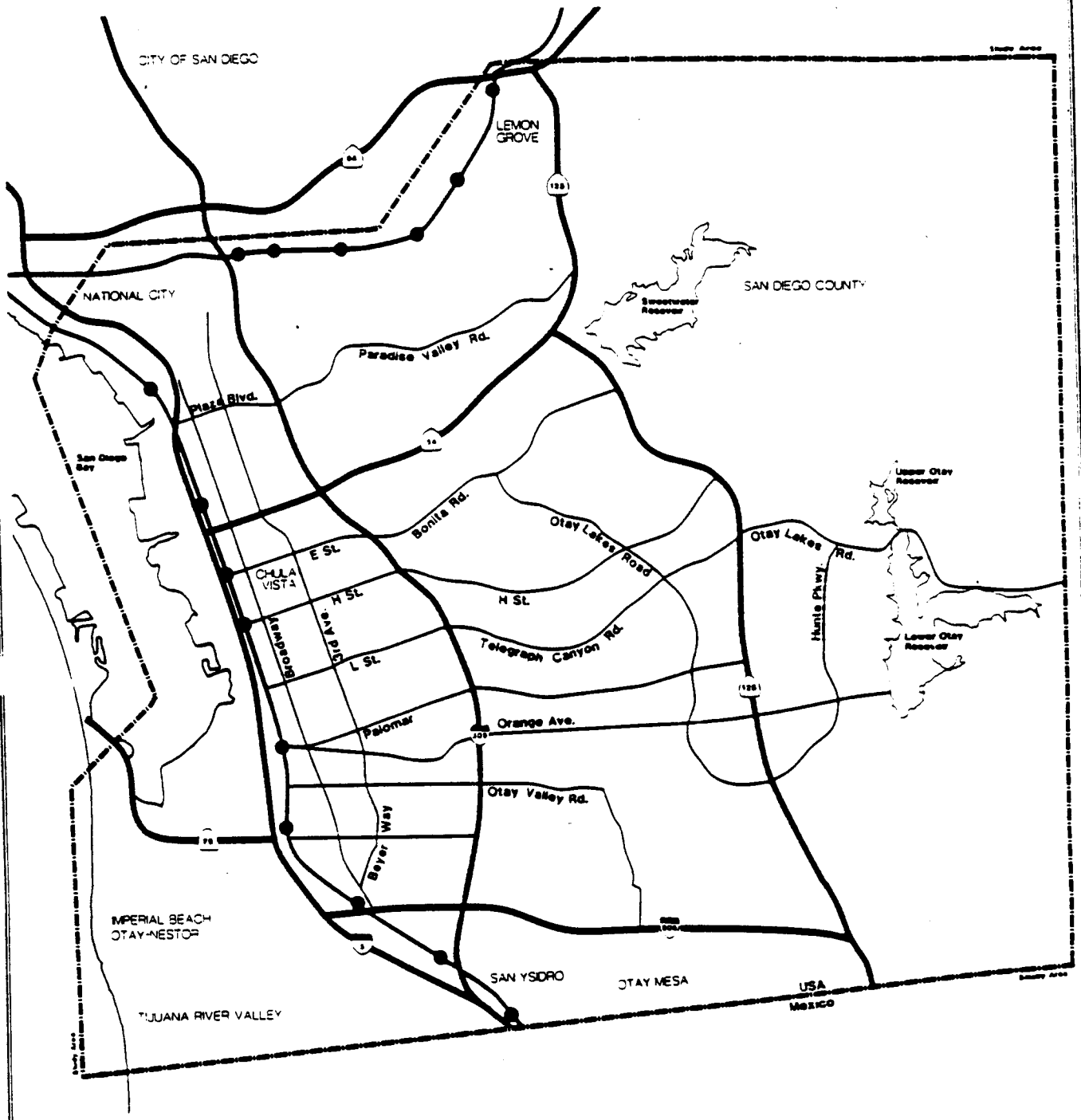
1.4 SUMMARY OF FINDINGS AND RECOMMENDATIONS

1.4.1 Overall Conclusion

The overall conclusion of the feasibility study is that extension of rail transit into the South Bay subarea is potentially supportable along one or more alignments. A number of factors will directly influence the viability of such an extension:

1. Ridership levels are lower than other regional lines, resulting in less attractive cost-effectiveness ratios. Shaping future land use patterns can significantly increase ridership above that forecast with current travel demand models.

2. Land-use patterns in the developing Otay Ranch and Otay Mesa areas must be planned to focus activity at station areas. Site planning, density concentrations and mixed-uses must be employed to generate increased transit ridership.



South Bay Rail Transit Extension Study

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SKW
Fraser Engineering Inc.

LEGEND

- Existing/Proposed Freeways
- Study Area Boundary
- San Diego Trolley (Existing)

STUDY AREA

1-1

CO JACE SRW INC 19 FEBRUARY 1990

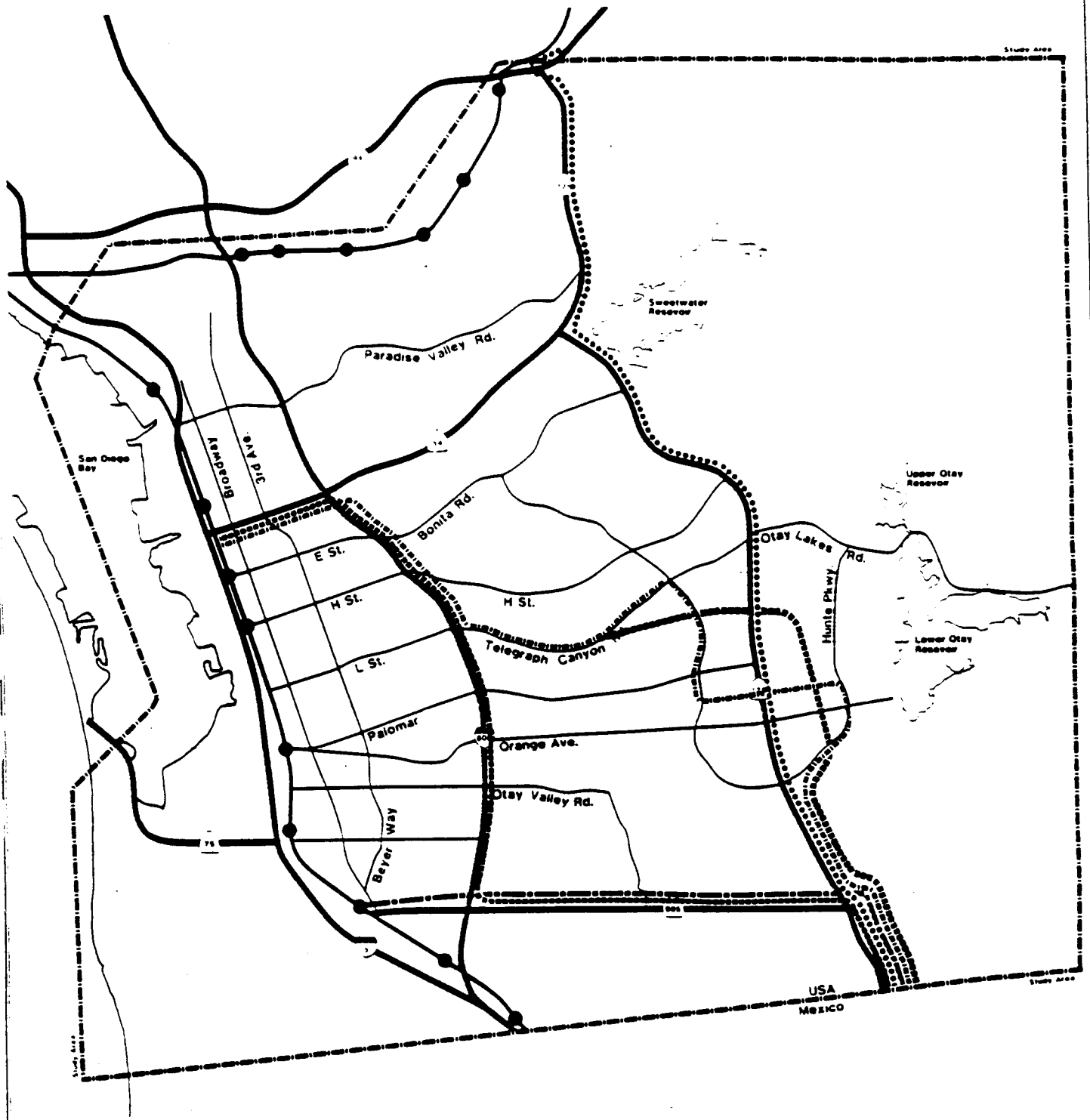
3. Active station area land use management is necessary in order for transit services to be the most effective in the South Bay in serving travel demands. As the regional agency responsible for land use and transportation planning, SANDAG should work with each member agency to establish a program to pro-actively manage land use planning at station sites. National and foreign experience with land use planning with an orientation to transit has resulted in a more pedestrian friendly built-environment and has assisted in meeting other regional objectives such as trip reductions, air quality levels and maximization of infrastructure investments. The key to success is to accomplish this action on a regional basis in concert with other programs to achieve the desired objectives.

1.4.2 Analysis of Alternatives

The study was initiated with a comprehensive inventory of the South Bay and an assessment of potential travel corridors to determine the physical suitability to accommodate fixed-guideway transit alignments. A universe of over 35 different alignment segments was identified. A detailed evaluation was conducted of these options with regard to physical requirements, environmental sensitivity, capital costs and potential to serve travel desires. The evaluation resulted in definition of five LRT alignments as shown in Figure 1-2 and one commuter rail option.

A more detailed level of analysis was conducted which examined the plan and profile location of possible alignments and station locations, estimated ridership using the regional travel models, estimated capital costs and operating and maintenance costs and identified potential environmental impacts. The conclusions of these analyses are:

1. Alternative C from the Otay Border to the Iris Street station on the South Line exhibits the highest ridership of the alternatives studied. The line replaces an express bus line assumed as part of the Base network which showed ridership volumes slightly less than the rail line.
2. Alternative A-1 from the border through Otay Ranch to the South Line near SR-54 showed the highest level of New Transit Riders of the alternatives examined. This is because of the types of land uses served and the difficulty in providing express bus service to serve the same trip.
3. The most cost-effective alternative in terms of Annual Total Cost per Annual Boarding is Alternative C which is 40 percent lower than Alternative A-1.
4. The most cost-effective option in terms of Annual Total Cost per Annual New Transit Rider is Alternative A-1. The cost-effectiveness threshold used by the federal Urban Mass Transportation Administration is $10.00 per New Transit Trip. The cost-effectiveness calculation for Alternative A-1 is approximately 4.5 times that level. Additional refinements to increase ridership and decrease costs are needed.



South Bay Rail Transit Extension Study

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ALTERNATIVE A
ALTERNATIVE A[1]
ALTERNATIVE B
ALTERNATIVE C
ALTERNATIVE D

A[1]: Otay Ranch Joint Planning Group Alignment

CONCEPTUAL ALIGNMENT ALTERNATIVES FOR DETAILED ANALYSIS

5. Alternative B demonstrates significant transit ridership in the north/south direction for the South Bay. Relative to the other South Bay LRT alternatives, the performance of this option is substantially cost-effective.

6. Alternative D along I-805 and the Commuter Rail option along the bayfront to Imperial Beach are both duplicative of other options or are competitive with existing services such as the South Line. These options do not contribute significantly to increasing the effectiveness of transit services in the South Bay.

7. Alternative E was examined which consisted of a combination of Alternatives A-1 and C. Alternative E exhibited an increase in boardings as expected from the combination of Alternatives A-1 and C but roughly 80 % of the total if added separately. This alternative was found to be comparable from a Boardings per Train-Mile standpoint with the other alternatives and mid-way between Alternative C and Alternative A-1 with respect to Total Annual Cost per Annual Boarding. The combined Alternative E was found to be slightly better than Alternative A-1 considering Annual Total Cost per Annual New Transit Rider at about 4.0 times the UMTA threshold.

1.4.3 Land Use Adjustments

Current land use planning concepts proposed for the Otay Ranch and Otay Mesa areas are using techniques which concentrate development at station sites to take advantage of the transit access. Current SANDAG models do not account for this type of development pattern. The effect of the land use planning will be to alter travel behavior and make transit a more accessible part of everyday life. A factoring process is thus needed to reflect these conditions.

Similarly, with LRT service to the area, additional trip-making can be supported without increasing the capacity of the roadway system to take advantage of investment in transit facilities. Within station influence areas and in keeping with maximum development levels proposed to date, the amount of residential and commercial development can be adjusted to reflect the added transit capacity.

Research was conducted on land uses and response to transit service in San Diego and other locations and a factoring process was used to increase the forecast ridership for Alternatives A-1 and C. It was felt this process was conservative in that only a portion of the new trips resulting from increased development were allocated to transit. The following results were found:

- Considering both the differences in land use planning techniques and the increases in intensity, ridership was increased by 63 percent at stations in Otay Ranch and 43 percent at stations in Otay Mesa.

- The increased ridership improved the cost-effectiveness by over 50% for each option. However, the Annual Total Cost per Annual New Transit Rider is still two to three times above the desired UMTA threshold of $10.00 per New Rider.

The following alternatives were identified for further study:

- Alternative C from the border to the Iris Street station should be studied further. A significant opportunity exists to integrate the alignment and station areas into new industrial and mixed-use development on Otay Mesa such that ridership increases could be expected.

- Alternative A-1 should be studied further because of this option results in the largest increase in regional new transit trips of the alternatives studied. Alternative A does not as effectively serve the new development in Otay Ranch and should be eliminated from further consideration. The ridership could be increased further with attention to land use planning techniques that are currently being used in the master planning process. Further alignment and station design work could also reduce costs of structures and right-of-way if held by the public or dedicated.

- Alternative B serves and important travel path within the South Bay and connecting north into the eastern metropolitan area. Given the importance of the travel path and the potential for increased ridership from land use changes, future options for implementation should be preserved. This includes reservation of right-of-way in the SR-125 toll-road project.

- Alternatives D and the Commuter Rail alternative do not represent suitable improvements to the transit services in the South Bay or are duplications of services which are superior. These alternatives should be dropped from further consideration.

1.5 ORGANIZATION OF REPORT

Following this Introduction and Summary Chapter, the report is organized in five sections:

2.0 Opportunities and Constraints Analysis - examines physical features, socioeconomic forecasts and future travel demands and uses this information to identify potential rail transit corridor alignments.

3.0 Segment Evaluation and Identification of Route Alternatives - evaluates each candidate segment, compares the possible linkages to travel patterns and defines corridor route alternatives for detailed analysis.

4.0 Detailed Development and Evaluation of Alternatives - conveys the results of detailed plan/profile development of alternatives and evaluation of ridership, capital and operating and maintenance costs, and environmental issues leading to a comparative evaluation of options.

5.0 Land Use Enhancements to Increase Transit Ridership

5.1 INTRODUCTION

The objective of this chapter is to identify land use enhancements to increase transit ridership in the South Bay study area. Since little of the southern portion of the South Bay area is currently developed, a significant opportunity exists for the planning and implementation of new land uses to be influenced and managed to achieve regional objectives regarding urban travel. This is important considering current regional air quality and growth management goals and objectives.

The enhancement of land uses around future light rail transit (LRT) stations to increase ridership is premised on the fact that high levels of activity are necessary for successful transit services. To take maximum advantage of the investment in LRT, residential and employment uses should be clustered within convenient walk distance from stations (feeder bus "design" beyond walking distance). This may mean changes in land use and site planning are necessary in station areas.

5.1.1 Organization of Chapter

This chapter describes ways to promote compatible private urban development around LRT stations identified previously in the study. The chapter is divided into four sections:

1. A description of key characteristics of proposed South Bay land use in the developing Otay Mesa and Otay Ranch areas.

2. An overview of the effects that LRT may have on land development and the general development expectations that may be associated with LRT stations.

3. A description of the approaches that other American or Canadian metropolitan areas have taken toward land use planning and development in connection with their LRT systems.

4. A synthesis of ways to promote compatible development around transit stations.

5.1.2 Summary of Ways to Focus Development Around LRT Stations

Section 5.3 of this chapter explains techniques to focus growth and development in detail. A brief summary of general conclusions is presented here.

Essential factors for successful land development around light rail transit stations include (a) strong real estate market, (b) public support such as land use regulations and incentives (both financial and non-financial) and (c) high transit ridership levels. With these factors in place, LRT may focus and even induce substantial amounts of development around station areas and, to a lesser degree, along lines. However, LRT

does not normally induce growth that would not have otherwise occurred somewhere in the market area for each particular land use. Growth around station sites is primarily captured from another location in the market area.

Local land use policies must support transit use and station area development, and station area land planning should begin far in advance of station construction. Several American cities have demonstrated success in station area development through public planning and participation.

Regional transportation planning and corridor land use planning should be coordinated to maximize station area potential. That is, the value of station area real estate can be increased by restrictions on the ease of automobile movement, a light rail transit system that competes well with driving, and relatively compact urban form. Likewise, proper station area development promotes transit usage.

Tools to promote area development include:

- Land Use Planning and Urban Design
- Transportation System Planning
- Zoning
- Public Utility System Improvements
- Financial Incentives
- Joint Development

5.2 EXPECTED DEVELOPMENT IN THE SOUTH BAY STUDY AREA

5.2.1 Overview

The introduction of LRT into the developing South Bay area will be unique in the San Diego region because of the type of travel that will be served. Study of expected travel patterns in the area at full development of existing plans indicate the transit line will serve significant suburban-to-suburban travel. The Otay Mesa border crossing with Mexico will also continue to increase in importance as a trip generator. Connections to Centre City will be possible but the primary travel demands will be within the Otay Mesa and Otay Ranch areas.

Recent implementation of rail transit systems has been undertaken in established urban areas rather than in new suburban locations. This has required design of each system to fit into existing land uses. Because the Otay Mesa and Otay Ranch areas are largely undeveloped today, a significant opportunity exists to make suggestions on land use configurations around transit stations to enhance the attractiveness of transit use and thus increase ridership.

5.2.2 Otay Mesa Planning Area

Otay Mesa is an area of approximately 6,000 acres along the Mexico border south of the Otay River valley and east of I-805. The area is expected to be the largest and potentially the most important industrial use area in the City of San Diego. A Planned Development Ordinance has been enacted by the City to guide planning in the Development District.

The area is planned around existing Brown Field, a general aviation airport on Otay Mesa Road in the north-central portion of the District. The area has also been the focus of planning efforts to locate a new regional airport, possibly in conjunction with Mexico as a bi-national facility. A major portion of the area has also been designated as an Industrial Foreign Trade Zone.

As indicated in Figure 5.1, a number of Precise Plans and Tentative Maps have been approved for Otay Mesa. Over 4,000 acres of industrial uses are planned with about 7.1 million square feet of building area approved. Approximately 3.1 million square feet of building permits have been issued.

Development plans have been approved on about 630 acres totaling 25 million square feet of office, warehouse and light industrial uses. The Floor Area Ratio (FAR) for these uses is 0.295. Plans approved along Otay Mesa Road result in some of the higher FAR's in the area. Considering 12 projects along Otay Mesa Road, the total floor area is 2.041 million square feet of building area on 5.554 million square feet of site resulting in a FAR of 0.37.

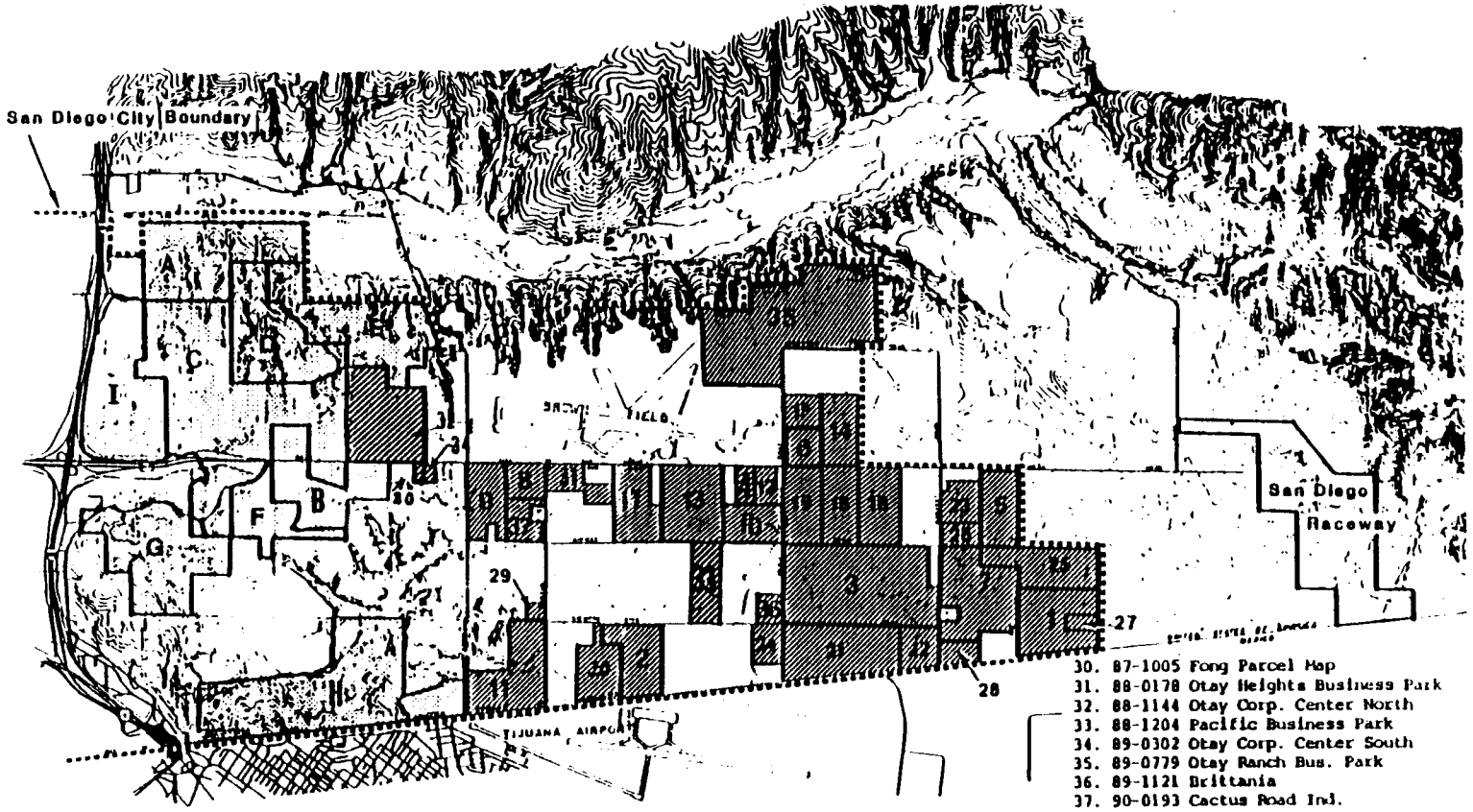
Generally, site plans for these projects follow traditional guidelines. Buildings are normally placed in the center of the site. Parking surrounds each building with parking surfaces used by pedestrians to access the facilities. Access for transit patrons from the street can often be the longest walk-distance for any employee.

Nine Precise Plans are currently in process for residential subdivisions. The residential areas are all west of Otay Valley Road. Roughly 15,000 to 18,000 dwelling units with supporting commercial uses are spread over 1,800 acres. This equates to an overall residential density of 5.6 du/acre at the lower end.

The residential plans also follow traditional schemes. Single family parcels take-up most of the acreage with a few selected nodes of community and neighborhood centers. A Town Center has also been designated for the site north of Otay Mesa Road at the proposed Palm Avenue intersection. Residential projects are currently in the planning stages and design guidelines for the Town Center are being developed.

5.2.3 Otay Ranch Planning Area

Otay Ranch is one of the last large undeveloped areas in the San Diego region. The Ranch Planning Area is broken into a large western parcel with most the wester portion of the expected development and two smaller parcels to the east in the foothills. The western parcel contains the possible LRT alignments and is the focus of this discussion.



A. Dennery Ranch
B. Otay Vista
C. California Terraces
D. Hidden Trails
E. Robinhood Ridge
F. Santee Investments
G. El Mirador
H. Spring Canyon
I. South Palm

* 1. 86-0743 OIC I
* 2. 86-0843 Hall Properties
* 3. 86-0160 Border Business Park
4. 86-0666 Otay Mesa Partnership
* 5. 86-0670 San Diego Business Park
6. 86-0834 San Diego Investments
* 7. 86-0851 OIC II
8. 86-0345 Mesa Business Park
9. 86-0418 Pacific Gateway
10. 86-0836 Empire Centre
11. 86-0535 International Business Park
12. 86-0780 Otay La Media Center
13. 86-0760 Brown Field Business Park
14. 86-0884 Piper Ranch
15. 86-0979 La Media Business Park
16. 86-1060 San Diego Mesa
17. 86-1010 Otay Mesa Business Park, Ltd.
18. 86-1060 Otay Mesa III, Ltd.
19. 86-1021 Otay Mesa International Plaza
20. 86-1065 Mactinee Ranch
21. 86-1080 Siempre Viva Business Park
*22. 86-1086 OIC Lot 16 Parcel Map
23. 86-1050 Jet Air
24. 86-1088 Siempre Viva Industrial
* 25. 87-0161 Lot 1 OIC (Revised TM)
26. 87-0166 Airway International Business Park
27. 87-0178 Lot 6 OIC (Revised TM)
28 87-0470 OBOW Otay Parcel Map
29 87-0661 MORINAKA Parcel Map

South Bay Rail Transit Extension Study

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PROPOSED PRECISE PLANS

TENTATIVE MAPS

* ADOPTED DEVELOPMENT AGREEMENTS

Otay Mesa Community Plan Area

Source: City of San Diego Planning Department
31 March 1990

NOT TO SCALE

5-1

The western parcel as shown in Figure 5–2 covers about 9,400 acres and is planned to be home to between 40,000 to 60,000 people depending on the ultimate land use plan adopted. In a unique process, two development plans have been prepared to be compared and reconciled for final adoption. The developer has prepared a plan for review as has a cooperative effort between the County and the City of Chula Vista. Known as the Joint Planning Group (JPG), the County/City effort was initiated to provide an alternate development plan for consideration. Recent work has focused on the consolidation of the two plans into a single, adoptable plan.

The ultimate plan for the area will result in a number of interesting elements:

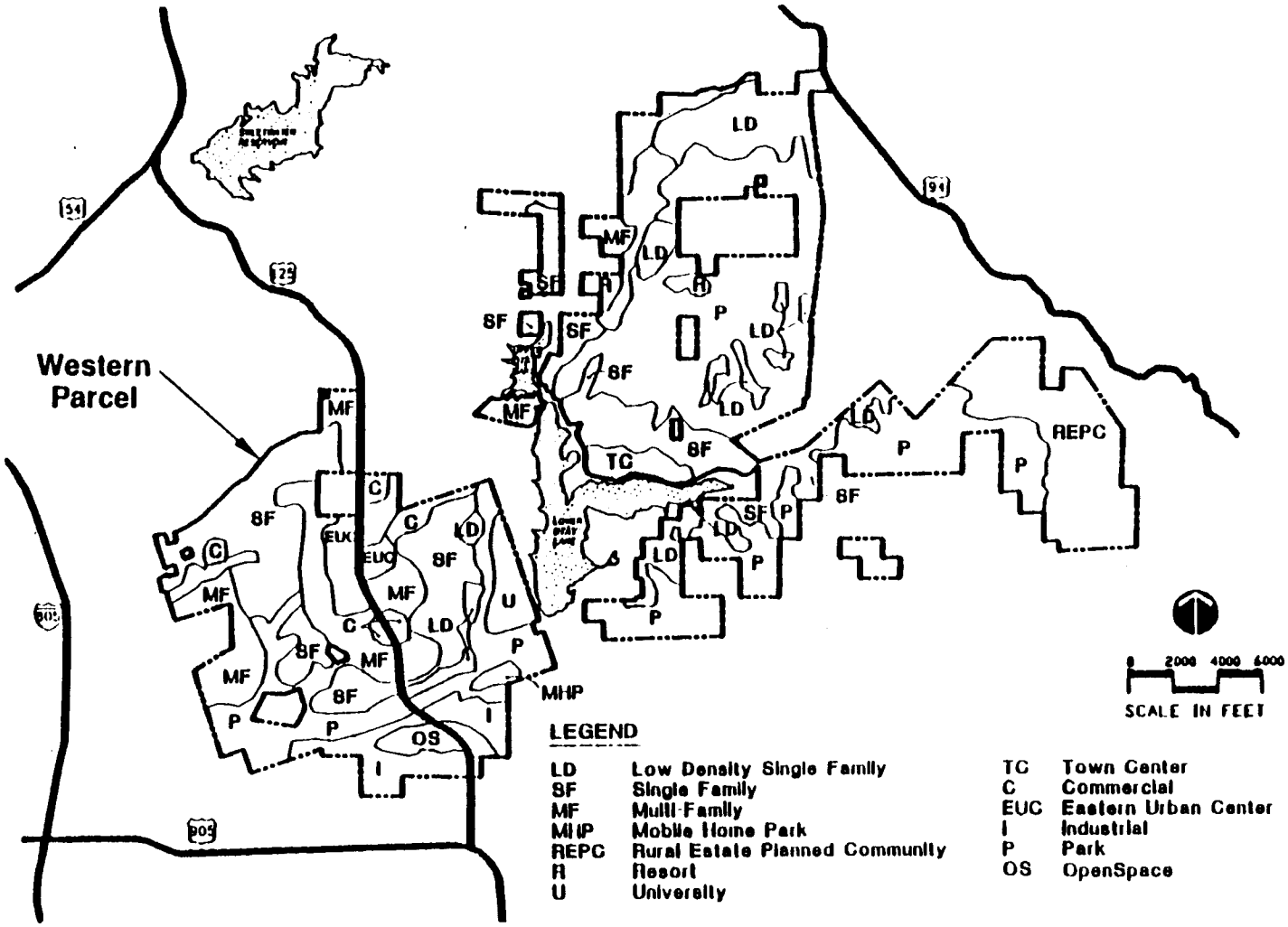
- Between 20,000 to 30,000 housing units which would result in gross overall density of 2.2 to 3.2 du/acre. The somewhat low densities are a reflection of the high proportion of open space in the plans at 55% of the total parcel. When the open space is subtracted, the net density becomes 4.7 to 7.1 du/acre.

- Roughly 200 acres will be set aside for commercial and office uses. This area will include establishment of a major urban center similar to North University City. Anticipated development levels in the East Urban Center would include:
  - 1.8 to 2.0 million square feet of neighborhood and regional commercial uses;
  - 0.5 million square feet of visitor commercial uses; and,
  - 1.8 to 2.0 million square feet of office uses.

- Designation of a site for a University of California campus on about 380 acres. Adjacent to the site would be research and development related industrial on about 500 acres.

- An Olympic Training Center, which is under construction, has been located adjacent to the eastern edge of the parcel. Special event activity may result in significant generation of travel demands.

Early in the process, it was decided by both the developer and the JPG to focus development around a series of villages. Nine villages are planned on about 2,400 acres. Table 5.1 presents calculations of density differences for mid–range and maximum levels as calculated by the JPG.



South Bay Rail Transit Extension Study

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Otay Ranch Community Plan Area

Source: Otay Ranch New Town, Baldwin Vista January 1990

5-2

TABLE 5.2

OTAY RANCH RESIDENTIAL DENSITIES
MID-RANGE AND MAXIMUM DEVELOPMENT LEVELS

	MID-RANGE		MAXIMUM	
VILLAGES	Total DUs	Density	Total DUs	Density
West Poggi	2,400	6.2	3,200	8.1
East Poggi	3,500	7.3	4,500	9.3
Village A	980	10.9	1,240	13.8
Wolf Canyon	830	2.2	1,230	3.3
South Orange	1,900	11.9	2,400	15.0
University	4,250	15.1	5,200	18.5
Rock Mt.	340	1.2	470	1.7
Valley View	1,730	8.9	2,200	11.4
E. Urban Ctr.	3,000	30.0	3,000	30.0
Total	**19,000**	**8.0**	**23,400**	**9.9**

Source: JPG Concepts, June 1990

5.3 THE LEVEL OF DEVELOPMENT THAT MAY BE EXPECTED AS A RESULT OF LRT

This section summarizes the findings and conclusions of several sources on the subject of how LRT can be expected to induce or support land development. These sources include a study commissioned by the U.S. Department of Transportation and seminar comments by representatives of several cities which have actively used LRT to promote and shape growth: Portland, Calgary, Toronto, and Edmonton.

The dozen or more North American communities which have developed or expanded light rail transit systems over the last ten years have varied greatly in their planning (or not planning) for land development near stations and lines. Most cities with recent new LRT systems initially did not actively plan for development around station area with the result that the station areas have attracted little new development until recently. In contrast, Portland, Calgary, and Toronto actively planned for changes around stations, resulting in significant new development after the systems had been in operation several years and ridership potential proven.

There are two fundamental principles observed in these cities relative to promoting growth through LRT investments:

1. A program of land use planning, zoning, urban design, and development incentives along with a variety of means of boosting transit ridership must be formally put into place.

2. The public planning and incentives must be accompanied by a healthy development market to capture proportionately higher growth than would occur without the transit line.

5.3.1 General Conclusions

Among the published and unpublished documents on the subject of LRT and associated land development, there is consensus that rapid transit improvements are but one element in the development process. That is, LRT by itself is not a sufficiently powerful force to induce or attract urban growth which would not have otherwise occurred in the market area for each particular type of land use. Factors more important than the presence of an LRT station or line are (1) market forces (supply and demand, location, and demographics) and (2) public support for development (such as land use regulations and development incentives, both financial and policy-oriented).

With both of these factors in place, as in Portland, LRT may induce substantial amounts of development around station areas and, to a lesser degree, along lines. Without these factors, as in the case of the San Diego South Line, little economic impact should be expected. Market support for development near station sites cannot be assumed but should be verified to the extent possible through studies.

The corridors served by the LRT must be the growth areas of the region or at least have strong growth potential for competing successfully in a competitive market. If the regional economy can support only a slow pace of growth, it will be more difficult to attract significant development in the vicinity of stations. Development around LRT stations is rarely net new growth to the region but is normally growth attracted from another location.

Over the long term, it is also helpful if the selected development corridors also connect residential development to growing commercial activity centers. If future commuting connections require cross-system travel, it will be difficult to induce changes in residential patterns that will support future development. Finally, some amount of existing development is important as a catalyst for further investments while there should be sufficient land available for expansion.

Although information on the expected ridership as a result of land use changes is limited, a few sources were found which illustrate the relationship:

- In the report, "The Promise of California's Rail Transit Lines in the Siting of New Housing", Special Report to the Senate Transportation Committee, April, 1990, conclusions drawn indicate although "the data on ridership by Californians who live within 3,000 feet of rail transit stations is very limited, ridership of these persons is over 30 percent of all residents in commuting to work, compared to 10 percent among persons who work near rail transit stations."

- In the paper, "The Effect of Transit Service on Trips Generated by Suburban Development", Kevin G. Hooper, ITE 1990 Compendium of Technical Papers, the following relationships were identified for suburban Washington D.C.:
  - For suburban office development, there is a direct relationship between mode share and proximity of the office to the rail station; within 500 feet of a transit station, a mode share of between 20 to 25 percent can be expected. The mode shares reflect use of rail and heavy feeder bus.
  - For suburban residential development, transit mode share for work trips and distance is related as:
    - 400 feet, mode share of 60 to 70 percent
    - 400 to 1,000 feet, mode share of 50 percent
    - 1,000 to 2,000 feet, mode share of 30 percent
  - For suburban retail development, significant transit mode share can be achieved for the first 1,000 feet from the station entry, a mode share of 40 percent in the afternoon peak can be expected declining to 20 percent beyond 1,000 feet.
  - Peak period transit mode share at hotels within 2,000 feet of a transit station were found to vary from a high of 20 percent to zero. The average was 9 percent but no correlation with distance was found.

- In the book, *Public Transportation and Land Use Policy* by Zupan and Pushkarev, 1978, certain thresholds for land use intensities were defined for various transit technologies. For successful application of LRT, a center city core should exhibit between 20 and 200 million square feet of non-residential floorspace. Inference may be made that such a threshold, or some major portion of the threshold, could apply to a suburban center as well. Residential densities were defined as follows:
  - LRT, headways of five minutes in peak, average density for a corridor of 25 to 100 square miles of 9 du/acre.
  - Express Bus Reached by Auto, headways of 15 to 30 minutes, average density over 20 square mile tributary area of 3 du/acre.
  - Express Bus Reached by Walking, headways of 20 to 30 minutes, average density over a smaller two square mile tributary area of 15 du/acre.

5.3.2 Findings of the U.S. Department of Transportation

A recent study (Economic and Development Impacts , Douglas Lee, U.S. Department of Transportation, 1987) took a very pragmatic view of the impact of rail transit on land development. Although Mr. Lee is a proponent of mass transit, he emphasized throughout his analysis that while transit is very definitely an asset to urban development, it is difficult to document that fixed-guideway transit systems can effectively shape development patterns. Furthermore, he contended that rapid transit improvements are but one element in the development process. More important factors are those cited above: market forces and public support.

Another study for the U.S. Department of Transportation by Robert L. Knight and Lisa L. Trygg, Land Use Impacts of Rapid Transit: Implications of Recent Experience (1987), included the following conclusions:

1. Rail rapid transit improvements can influence land use significantly when supported by other essential factors, including land use controls, availability of land, attractiveness of surroundings, and regional demand.

2. Because of the likely slow pace of land use impacts, major early public revenues captured from such impacts should not be counted on to finance subsequent phases (beyond 10 years) of transit expansion.

3. Rapid transit improvements might be used as one element of a coordinated package of efforts to revitalize a declining metropolitan area but should not be relied on solely or even primarily for such purposes.

4. Recent major transit improvements have been important inducements to downtown development near stations, but only when supported by other powerful factors (demand for office and retail space, availability of land, placement of the station, and other public investments).

5. Recent major rail transit improvements have played a key role in intensification of land use in station areas outside the CBD but only when joined with other favorable forces (community support, station site access and physical characteristics, available land, and suitable land use controls).

6. Although evidence is limited, recent experience provides no indication that any rapid transit improvements have led to net new urban economic or population growth in the market region.

7. In addition to impacts of conventional rail rapid transit, some recent major commuter rail improvements were found to have contributed to land use intensification. Evidence on light rail and busways was sparse and inconclusive.

8. Local land use and other related policies should be identified more precisely, and transit-related land use impact objectives should support these explicitly.

9. Commitment to local land use policies supporting desired land use impacts should be demonstrated before the transit improvement is begun.

10. Local land use policies have often been instrumental in facilitating transit's land use impacts. At the same time, the transit improvement itself has sometimes provided the rationale needed for acceptance of such policy changes.

5.3.3 Common Themes Expressed in Other Cities

A consensus of ideas relative to land use and development effects emerged from representatives of LRT systems in Portland, Calgary, Toronto and Edmonton when they gathered for a seminar hosted by the Twin Cities Metropolitan Council and the Twin Cities Regional Transit Board on May 18, 1990. These themes are summarized below.

Positive Development Impacts :

- LRT not only moves people, but because of the enhanced accessibility, offers cities an opportunity to shape and guide additional city growth, consuming less land and generating less traffic.
- Increased land use densities around stations can create more dynamic pedestrian centers that possess an active, human character.
- Underutilized or blighted properties in the vicinity of stations can be redeveloped or upgraded, revitalizing that portion of the community.
- LRT can increase a community's property tax base with increased land valuations, particularly in LRT station areas. Much of this tax base growth represents a redistribution from other locations, possibly within the same municipality, however.
- Commercial properties in station area attribute improved business to the increased pedestrian activity and visibility that the LRT has provided.

Effective Preservation of Stable Neighborhood and Businesses :

- Early involvement of existing businesses and neighborhoods in station area planning ensures the community that their concerns will be positively handled, developing a greater degree of public trust.
- Station area planning graphics were utilized to communicate with existing businesses and neighborhood concerning proposed land use changes, access and pedestrian amenities, and where no significant changes would be made, to assure neighborhoods that no further development would occur.
- Community environments in the vicinity of stations have been preserved and even enhanced with effective urban design and landscaping measures, and in some cases with down-zoning.

Positive Transportation Impacts :

- LRT provides these cities a fast, reliable, highly visible, high capacity transportation alternative.
- Overall transit system ridership can be increased, through land use development policies thus reducing reliance on roadways to accommodate travel.
- The potential of financing transit with private sector sources can be enhanced with LRT but only in a highly competitive real estate market where it can be

demonstrated that the returns to an investor would be increased by an amount greater than his/her investment in LRT, while risk is minimized.

5.4 TECHNIQUES TO FOCUS DEVELOPMENT AROUND LRT STATIONS

The previous sections of this chapter addressed the development expectations which may be associated with LRT stations and the conditions which must complement LRT to achieve results. The approach and experience of several American and Canadian cities were briefly described as a means of illustrating the relationship which may be developed between light rail transit and land development.

The following section will describe the various tools which may be used in the South Bay to leverage a change in land use master planning in coordination with light rail transit. These include:

1. Land use planning and urban design
2. Transportation system planning
3. Zoning
4. Financial incentives
5. Public utility improvements
6. Joint Development

5.4.1 Land Use Planning and Urban Design

Every metropolitan area which has demonstrated success in redeveloping the vicinity of LRT stations has engaged in a process of planning and designing the 1/4– to 1/2–mile radius area of the station prior to the advent of the station. Similar but less intensive work has also been conducted along the rail lines between the stations.

The Objectives of Station Area Planning Process

While every station area land use plan should be tailored to local needs, desires and values, there seem to be several objectives which ought to be considered in South Bay:

1. Coordinate land use decisions with the LRT development process.
2. Make more intensive use of land near stations so as to take advantage of its improved accessibility and also to encourage the use of LRT.
3. Establish a pedestrian–friendly environment in and around stations.
4. Preserve the scale, character and quality of attractive, healthy neighborhoods along with individual buildings which have special architectural or historic merit.
5. Minimize the potential disruption associated with LRT construction and operation.

New housing in the immediate vicinity of stations should be built to a density of at least 25 dwelling units per acre. Commercial development should be designed to minimize land devoted to parking and driveways, should be combined with housing or offices when possible, and should protect nearby housing through careful use of landscaping, berms, walls, lighting, trash handling, traffic control, and hours of operation. Likewise, reasonable attempts should be made to maximize the floor-area ratios of office buildings near stations. Public open space and special urban design treatments should be strategically used to soften the effects of increased density.

Process of Land Use Planning

The process of land use planning should proceed in step with that of light rail transit. That is, broad assessments should be made of land use in corridors when alignment alternatives are being studied and successively more detailed studies conducted as final alignments are selected, station areas evaluated, stations sited and designed, and transit operation commences.

Phase 1--Corridor Assessment:

The **South Bay Rail Transit Extension Study** is the first of several corridor-level studies that will be required as LRT implementation is pursued in the South Bay area. At this level of study, the ability to change land uses to support transit is a key measure in determining feasibility. Fixed-guideway transit can also be considered early in designing sufficient transportation capacity. Competing transportation facilities should be discouraged.

While corridors are being studied and ranked in priority for possible LRT development, local planners should think about the role which LRT could play in reinforcing or remolding general patterns of development, redeveloping blighted areas, supporting stable neighborhoods, and generally conforming with local goals. Issues to be resolved, special features to be protected and general impacts to be mitigated should be identified at this stage.

This stage would not be too soon to begin a coordinated process of market studies that support and improve the rationale for land use planning efforts. If transit is expected to leverage changes in land use patterns and promote station area development, then it is imperative to understand the general and specific markets. Market studies can also improve the selection of corridors and station sites. These studies should become more specific as transit decisions are made.

Phase 2--Station Area Land Use Planning:

After rail alignments have been chosen and station locations chosen, land use planners should refine and expand the work done during Phase 1. The 1/4- to 1/2-mile radius area of station influence should be identified and alternative land use plans drawn for these areas with resident and business input. These plans might include identifying areas for no change, redevelopment and intensification, mixed uses, and other variations. It is important that the planned level of growth around stations be acceptable to the community.

Phase 3--Detailed Station Area Plans:

When or if a station moves into the final engineering phase, the local planners should further refine their land use planning. It may be that a station area plan requires no more work, as no significant land use or access changes are desired. However, where redevelopment or intensification is envisioned, a detailed plan should be drawn interactively with the rail authority.

Land use planning should sharpen the identification of development opportunities through the use of an economic market analysis. The final plan should select one land use pattern and set of objectives, density and building height ranges based upon the market analysis and evaluation of access, pedestrian and vehicular access plan, parking controls for the neighborhood, mitigation plan for impacts, and an urban design and architectural theme. The market studies will provide the basis for defining financial incentive programs and private support that may be required to achieve the desired objectives.

An implementation plan should be adopted which addresses zoning and other official controls, improvements to streets, utilities, and streetscape, development moratoria to protect station areas and rights-of-way, land acquisition for redevelopment, and financial and zoning incentives for developers in exchange for specified performance such as transit-related amenities.

Phase 4--Station Area Development:

Once station construction has begun, Cities should implement their station area development plans. There are three possible approaches to land redevelopment:

1. The City reacts to private sector proposals.
2. The City works cooperatively with private developers to assemble properties and to organize mutually beneficial business arrangements.
3. The City or a not-for-profit development corporation takes the lead in land development.

The second two approaches have proven to be more successful in producing new development in established areas along rail lines. In either case, the public sector will have to acquire land for development and provide relocation assistance, negotiate with developers to obtain commitments for station area development, and implement the financial plan described previously.

Land Use Planning Guidelines

Although station area land use planning must respond to the particular desires and needs of each neighborhood, there are guidelines which may be considered if the community wishes to take advantage of the locale's improved accessibility and protect stable, low-density residential areas. Some of the guidelines followed by other communities with successful LRT station area development are presented below, and others may be created locally.

1. Land use planning and transit planning must be coordinated within a metropolitan area for a rail system to be successful and, consequently, for station area development to be maximized. That is, rail transit works best in a region (a) with relatively high development density in the broad transit corridors and (b) which makes a conscious attempt to restrict freeway capacity and downtown parking ease.

2. The most intense uses of land should be located closest to the transit stations, and densities should decrease with distance from the station.

3. Transit usage can be promoted by locating high-density housing along a transit line along with high concentrations of employment and/or colleges or other schools. Cities should establish minimum residential densities and, when commercial or industrial development is considered, minimum employment densities.

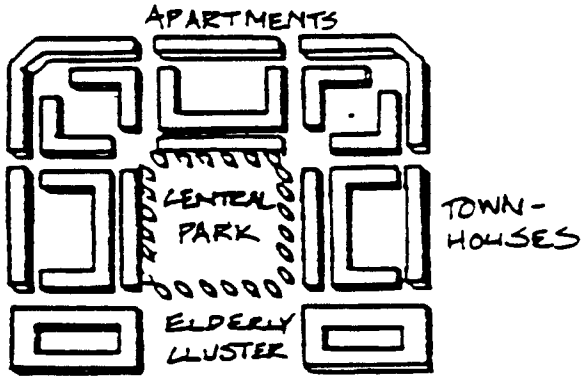
4. High-quality, compatible land uses should be encouraged in the vicinity of the LRT stations so that the areas function as a recognizable focus of activities oriented toward human activity. An example of compatible site designs is presented in Figure 5-3 which illustrates a concept called "pedestrian pockets" by Peter Calthorpe.

5. Transit stations offer opportunities for civic and cultural activities and to make a neighborhood statement about local identity, culture, history, or accomplishments. The use of public art and public open space should be incorporated in this regard.

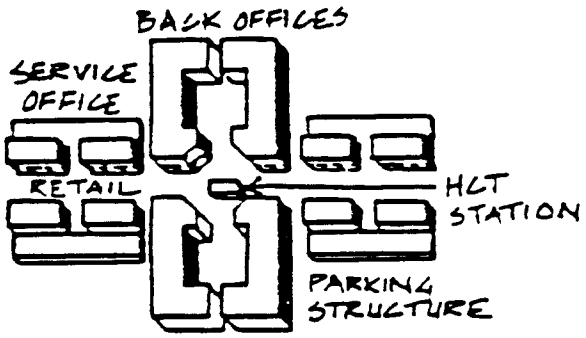
6. In developed communities, blighted or underutilized land parcels near LRT stations should be targeted for redevelopment.

7. If major redevelopment activity is proposed to occur, it should be located near the transit station as opposed to the interior of an established neighborhood. Smaller scale in-fill development would be the preferable approach to stable neighborhoods.

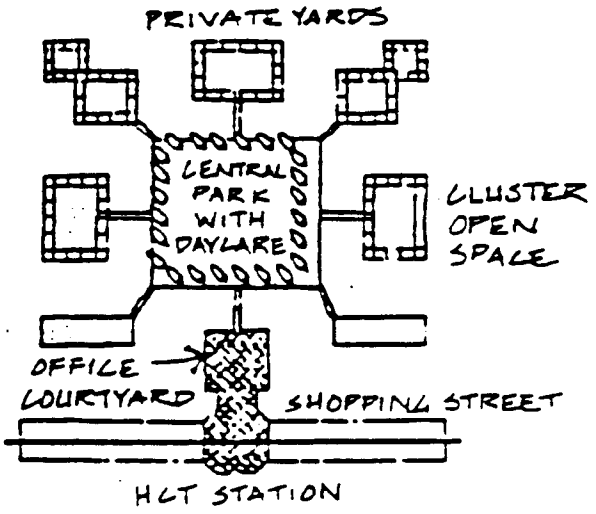
The Pedestrian Pocket would provide for many types of housing needs; elderly clusters are an easy stroll to park, services, and trolley line; two story townhouses with attached garages and private yards provide for families; three story apartments provide for singles and childless couples.



The commercial center of the pedestrian pocket would mix large back office jobs with ground floor retail restaurants and smaller business. The retail would face the light rail line and all employees would be within walking distance of the station. Cars could circulate on the shopping street and parking structures would provide for those who choose to drive.



Diverse open space would be divided in the Pedestrian Pocket; private yards for the families; cluster open space for a group of houses; central parks to be used by all; courtyards and a "main street" shopping area around the station at the center.



Source: Pedestrian Pockets, Peter Calthorpe, (1987)

Urban Design

As with land use planning, station area urban design is a matter of local preference, although the following concepts that have been advanced in other cities may be useful. These and other ideas can be used to promote land development near stations, among other objectives. The typical differences between dispersed and clustered uses are shown in Figure 5–4.

Building Placement, Height, and Massing:

1. Locate taller buildings near stations and lower–scale buildings on the periphery of the station area.
2. Locate major buildings within a reasonable walking distance of transit stations.
3. Create "defensible space" through careful design of buildings, windows, pedestrian ways, landscaping, parking areas, lighting, and other features.
4. Favor human scale buildings, mid–rise high–density versus high–rise high–density except perhaps in downtown locations.
5. Relate buildings closely to streets and sidewalks rather than separating them with large parking areas and open space.

Vehicular Circulation and Parking:

1. Do not separate transit stops from final destinations by walk distances that are longer than for automobile users. This is especially true for large complexes with a few main entries. This is also true for on–site shuttles. An example of this problem is presented in Figures 5–5 in retail areas and Figure 5–6 for office sites.
2. Redesign, if necessary, local street systems to prevent or minimize transit–related traffic from cutting through neighborhoods. Instead promote the flow of traffic to collector or arterial streets which lead to stations on the periphery of neighborhoods.
3. Link routes for buses and high–occupancy leading to transit stations.
4. Connect freeways and arterial streets to transit stations.
5. Attempt to minimize conflicts between vehicles and pedestrians or bicyclists.
6. Allow reductions in parking in exchange for desirable predetermined design features.
7. Locate parking areas away from pedestrian routes.
8. Allow penetration of large sites by feeder buses or shuttles.

Landscaping:

1. Use plantings, earthen berms, and attractively-designed walls to separate or buffer incompatible types of development.
2. Use landscaping to announce the station and improve the visual aesthetics of the station and its vicinity.
3. Plantings should be used to shelter transit users from harsh weather.

Pedestrian and Bicyclist Circulation:

1. The pedestrian and bicyclist environment within the station itself, between the station and nearby development, and among station area activities should be designed to be safe, pleasant, and protected from inclement weather. Lighting, landscaping, pavement texture, and route alignment should all be taken into account.

2. Pedestrian passage through developments adjacent to the transit station should be promoted in addition to peripheral movement.

3. A pedestrian precinct within a ten-minute walk of stations, both at the production and destination ends of the trip, should be defined and walkway improvements installed there.

4. Neighborhood and city-wide bicyclist systems should be redesigned and improved as necessary to provide safe, attractive access to stations. This should include the provision of functional bicycle racks at stations and nearby private development.

5. The needs of handicapped individuals must be considered.

6. The station area development plan should include the assignment of responsibilities and the sources of funding for implementation of the pedestrian and bicyclist system.

Public Open Space:

1. Use public open space to buffer stable, low-density neighborhoods from the adverse effects of higher density development near stations. Achieving good neighborhood "fit" will allow greater use of land near stations.

2. Create compact public open spaces immediately adjacent to station platforms for civic purposes.

3. Include public art at station sites to build local identity, bolster pride, recognize local history or achievements, and overall create a more pleasant environment.

5.4.2 Transit System Planning

A second way to promote urban development and redevelopment around transit stations is to plan and promote a highly efficient and desirable LRT system so as to maximize the accessibility of the stations, to draw more people through them, and to enhance the appeal of living in their immediate proximity.

1. The LRT system must be regarded by the traveling public, particularly commuters to the downtown or to outlying major urban centers, as more attractive than driving. Transit system routes must be carefully selected, stations located and spaced to balance ease of access and swift train movement, bus service should be partially rerouted to provide timed access to stations, train capacity and headways should provide comfort and convenience, fares must be perceived to be competitive with driving and parking costs, and auto access and station area parking must be considered.

   The bus system must be redesigned to carry patrons to the LRT stations. Transfers between bus and rail systems must be very convenient, including a compatible and easy to understand fare structure, minimum walking between modes, timed connections, and bus priority movements at busy nodes.

2. Restrictions on the growth of freeway capacity should be considered as part of an overall metropolitan transportation and land use strategy which is less dependent on the automobile and more conducive to transit use.

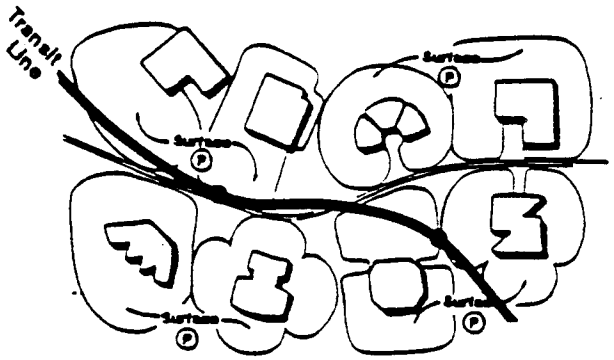
3. The City may study and adopt a method of either restricting the number of downtown parking spaces or creating disincentives to all-day parking by increasing its cost through a tax which is earmarked for the LRT, bus, and carpooling transit system.

4. LRT system planners should seek to route transit lines through areas which are planned for medium-or high-density residential or commercial development, thus creating an immediate symbiotic relationship between the high-capacity transit access and the high levels of person-activity.

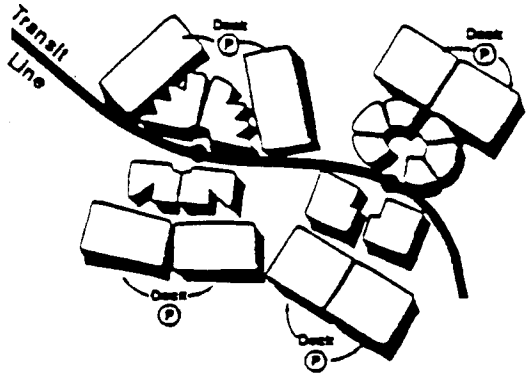
5. The transit line should connect activity nodes in a logical manner and, if possible, lines should terminate at major activity centers.

6. A strong feeder bus network is necessary to support fixed-guideway lines. The flexibility of buses within urban zones is important to maximize accessibility for all residents and employees. Large sites or groups of employers may collectively establish shuttle services at shift change to help employees access the LRT line.

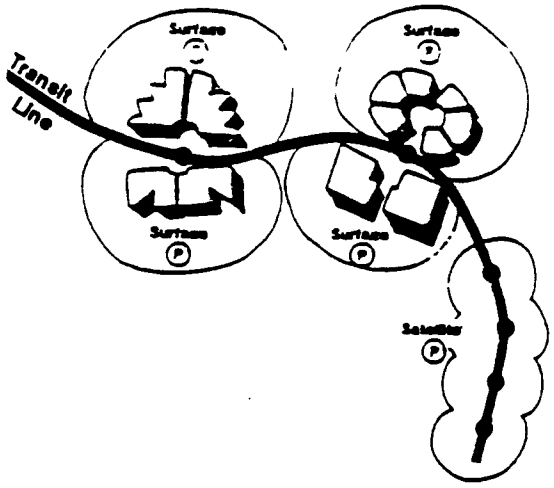
7. Programs to market the transit system to both patrons and the development and real estate community should be included. Marketing programs are essential to maximize ridership and recognition as well as to create a psychology compatible with station-area development objectives.



Building Site Lots:
No Intensity Possible



Building Site Decks:
Intensity Possible;
Parking Expensive



Satellite Lots:
Intensity Possible;
Savings Can Go To
Transit Line

Source: Land Use Decisions Supportive of People Movers; Walter Kulash (1990)

5.4.3 Zoning

Many of the traditional zoning techniques with which most planners are familiar can and should be used to enact land use plans in the vicinity of transit stations. These tested land use controls can be successfully tailored to fit local circumstances and needs when applied in an equitable manner and with consideration for due process requirements. In many cases, zoning ordinance amendments may not be needed; existing districts may be used to achieve the desired results with a few changes to the zoning map. Other times, ordinance improvement may be desirable.

Zoning techniques to consider may include but are not necessarily limited to the following:

1. A review and reaffirmation of the current zoning in stable neighborhoods where no change is planned.

2. Transitional zoning in the form of intermediate density housing or commercial activity; this may be mapped between high-density development adjacent to stations and low-density stable neighborhoods.

3. New, higher-density residential or commercial districts, especially including lessened setback or parking requirements.

4. Planned-unit development zoning, particularly including vertically mixed uses.

5. "Overlay" zoning in which special requirements and/or review procedures may be added to the pre-existing zoning district.

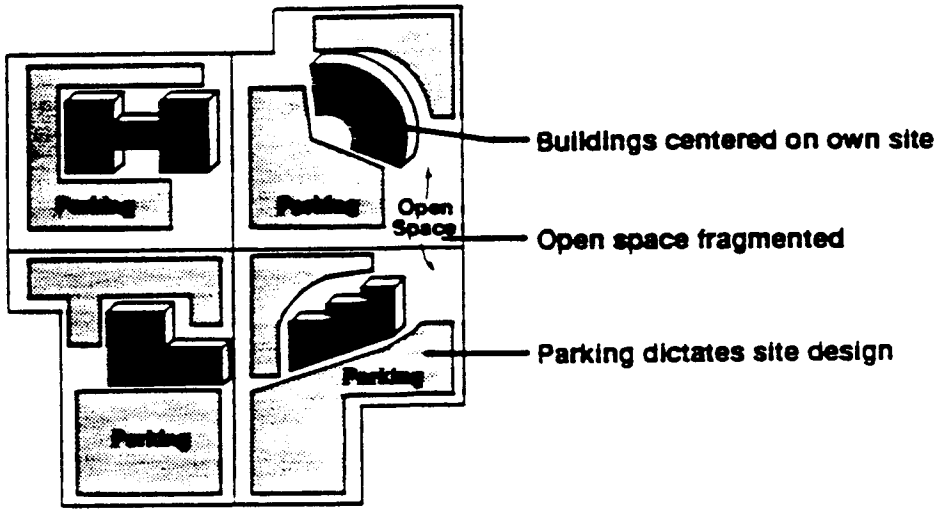
6. Air rights zoning to promote economical vertical integration of transit lines and private development and to capture part of the value created by the improved access.

7. Density bonuses in exchange for publicly desirable features such as transit system amenities, pedestrian- oriented design, public open space, streetscape improvements, underground parking, vertically mixed uses and close integration of LRT and private buildings.

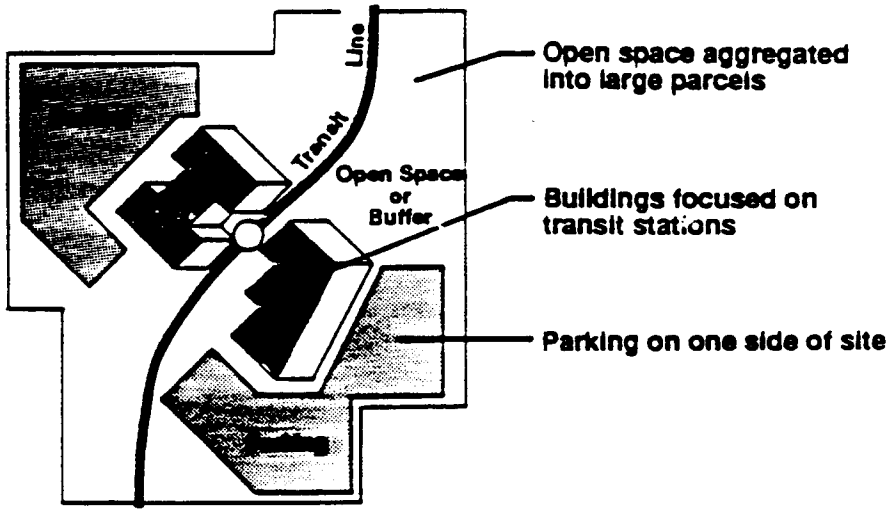
Temporary development moratoria may be used to forestall undesirable growth while station area plans are being prepared and/or new zoning controls are enacted near stations.

5.4.4 Financial Incentives

A wide variety of financial packages may be tailored by local governments or community development corporations to address individual market conditions and the desired role of the public in the station area development process. As mentioned previously, public participation may occur either in the form of joint public-private partnerships or through a public agency or corporation as the lead financial and packaging actor.

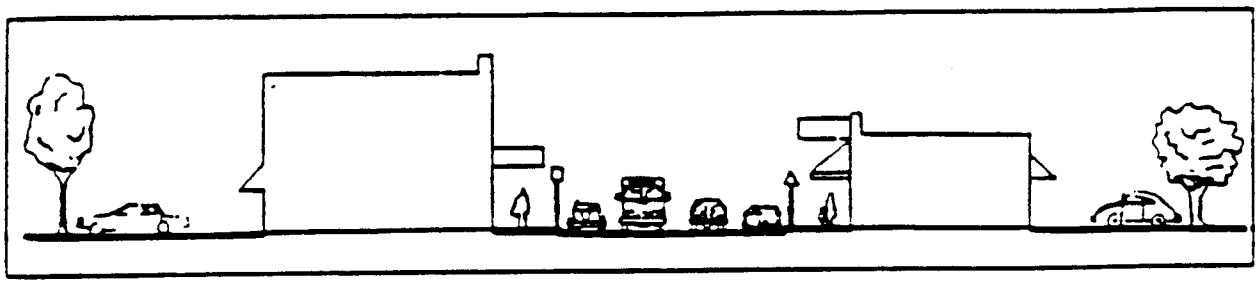


Dispersed Land Use

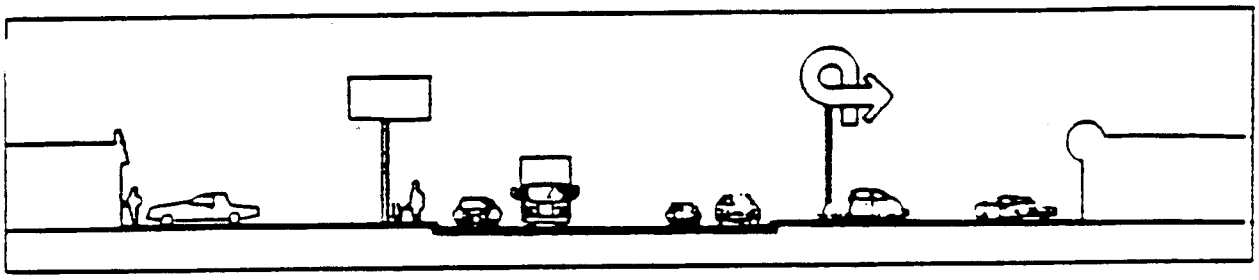


Clustered Land Use

Source: Land Use Decisions Supportive of People Movers; Walter Kulash (1990)

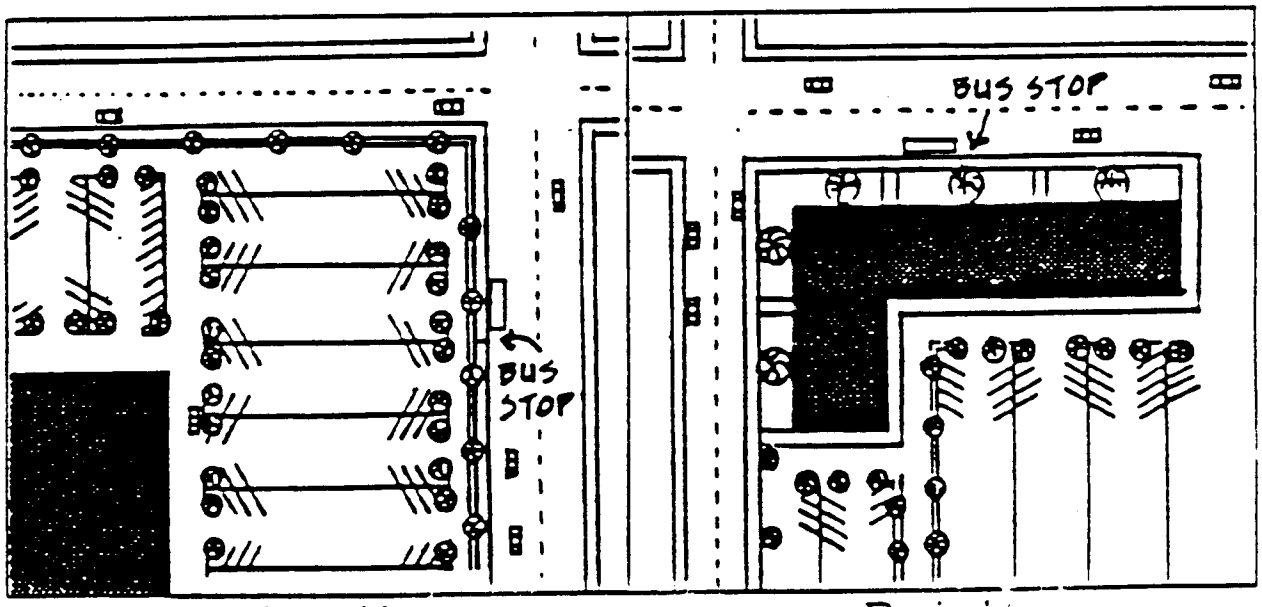


Transit related development



Automobile related development

Source: Public Streets for Public Use. Portland's Arterial Street Classification, Dotemer, (1987)



Undesirable
Buildings separated from street by parking

Desirable
Parking behind building

Source: Guidlines for Public Transit in Small Communities, Small Community Systems. Branch, Urban Transit Authority of British Columbia, (1980)

Financial tools may include:

1. Land acquisition, clearance, and relocation with discounted land resale.
2. Agreements for private project development with sale to a public entity and leaseback by the private sector.
3. Public bond financing for certain eligible private or public improvements (possibly through the tax increment financing statute).
4. Special assessment districts.
5. Building rehabilitation loans and/or grants.
6. Business development loans.

Depending upon the market conditions and corresponding degree of development difficulty, the public may desire to structure financial assistance agreements or special assessment districts so as to recapture some of the increases in property value attributable to improved access.

Prior to making substantial public investments to leverage private development around transit stations, local officials should attempt to determine whether such subsidies would result in a net increase in local tax revenues or merely shift tax base from one part of the city to the station areas.

5.4.5 Improvements to Public Support Systems

The capacity of land development is sometimes limited by sanitary sewer, storm sewer, or water system lines and/or local streets. Thus, upgrading these utilities or streets in coordination with private development may be necessary. Utility and street system needs should be evaluated and addressed during Phase 3 of the land use planning process: Detailed Station Area Plans.

5.4.6 Joint Development

Closely related to each of the preceding five means of promoting development around LRT stations is the subject of joint development. This may be defined as the cooperative design and development of private, commercial, or residential building(s) with a physically integrated transit station, possibly including shared financial risks and rewards, to the mutual benefit of the transit system and the real estate venture.

It must be emphasized once again that strong market conditions along with public sector policies that influence these conditions are essential in achieving substantial transit-compatible development. Particularly important is the fact that successful join development projects have usually involved heavy rail transit, which has higher patronage and station traffic figures than light rail.

Benefits of Joint Development

The coordination of land development with transit can have many benefits. It can:

- Cause land values to appreciate
- Increase transit ridership
- Provide the public sector with opportunities to capitalize on the property value increases that its transit investment has created ("value capture")
- Enhance returns on private sector real estate investment
- Broaden the tax base
- Strengthen the market for further urban development
- Save utility and municipal service costs

Public Agency Involvement:

The success of transit-induced development depends heavily on the degree of public agency involvement. Strong public sector involvement early in the process produces the optimum level of joint development. Certainly other factors such as the rate of growth, the type and setting of the station, and the area's property ownership patterns also exert important influences on station area development. However, the traditionally held view that the private sector can maximize the value of real estate with minimum public sector coordination, is from a public sector perspective, subject to considerable debate. Although the private sector perspective, subject to considerable debate. Although the private sector can perform admirably in a strong market, from the point of view of the community, the optimum level and quality of development near a transit station can be enhanced with public involvement.

The public may become involved in station area and other transit-related development through any of three major approaches.

Laissez-Faire Market Approach:

Under this approach, the community limits its involvement to performing customary regulatory functions. Its objective is to design and construct the most cost-effective system in the most expeditious manner. Comprehensive land use planning, if it occurs at all, is usually not initiated until after transit system construction is well underway. The private sector determines, within the context of zoning regulations, the location, scale, and composition of station area development.

Because public agencies increasingly recognize the shortcoming of the laissez-faire market approach, they tend to support one of the following alternatives: (1) substantial coordination of private and public development or (2) public-private co-development.

Coordinated Development:

The coordinated development approach involves establishing a comprehensive land use planning program before any transit construction is begun. This would be the preferred course of action for Otay Ranch and Otay Mesa. Stations are designed to optimize future joint development opportunities. Parameters for transit station area development are established in local plans including land use, traffic circulation, building bulk and height, streetscape improvements, utility system improvements, and pedestrian and bicyclist features. Compatible zoning is adopted prior to transit system construction and public financial mechanisms are agreed upon.

Project Packaging:

Under this type of approach, comprehensive planning is supplemented with specific public value capture objectives and financial leveraging resource are applied form the outset to optimize station area joint development. The land use planning process takes into account both the near-term and long-term development potential of each station area. Rampant land speculation is discouraged. Finally, the private sector is actively solicited to participate in joint development opportunities.

Reasons for public agencies to become strongly involved in the station area development process include the following:

1. To gain some control over the pace and scale of urban development.
2. To protect existing residential neighborhoods.
3. To ensure orderly and compatible station area development.
4. To optimize economic returns deriving from the system.
5. To maximize the transportation benefits of the system.

5.5 APPLICATION OF SELECTED TECHNIQUES TO SOUTH BAY LAND USES

This section will address the application of selected techniques to the Otay Mesa and Otay Ranch areas. Of specific interest is the potential changes in ridership that may result from changes in:

- Land use types and configurations
- Intensities of uses around station sites
- Site planning to improve transit access to uses

A two-step process has been designed to adjust forecast LRT boarding presented in Chapter 4.0 according to these changes in land use. The adjustment process accounts for the fact that land use planning, especially in new or developing areas, can be focused.

Based on experiences from other areas of the country, the forecasted LRT ridership will be adjusted to account for the land use design focused around villages. The transit stations will be located within the village centers and thus be accessible to a high percentage of the residents and employees in the villages.

The current SANDAG models do not account for this type of development because the models are calibrated on existing land use patterns and travel behavior. The effect of the land use planning on Otay Ranch and Otay mesa will be to alter travel behavior and make transit a more accessible part of everyday life. A factoring process is thus needed to reflect these conditions.

Similarly, with LRT service to the area, additional trip making can be supported without increasing the capacity of the roadway system to take advantage of investment in transit facilities. Within station influence areas, the amount of residential and commercial development can be adjusted to reflect the added transit capacity.

5.5.1. Otay Ranch Land Use Changes

The Joint Planning Group has prepared a land use plan for Otay Ranch which attempts to focuses land uses in villages. A mix of land uses will be included in each village to reduce dependence on the automobile and to encourage use of alternate modes such as transit, walking and bicycling.

The JPG examined several levels of development before arriving at the recommended configuration including a mid-range and a maximum level of development. This work was used to guide the adjustment of intensities.

Land Use Planning

To reflect the JPG land use planning and site design techniques, factors were developed for each station influence area. SANDAG has determined that for LRT in San Diego, a reasonable walking distance to a station is one-half mile. Using this distance, circles were drawn around each station and the areas within each TAZ were summed.

Using a proportionate allocation technique, the transit productions and attractions were totaled for each station influence area. These totals were then adjusted to account for the clustering for uses in villages with the following factors:

- Productions were increased by 35%.
- Work-based attractions were increased by 20%.
- Non-work based attractions were increased 10%.

These factors are based on empirical data from other areas in the country referenced earlier int his chapter. Implicit in the assumption is the fact that a policy-oriented plan must be in place to ensure the land planning is implemented with a transit focus.

Intensity Increase

Because of the extensive amount of effort that has gone into planning of Otay Ranch, changes in intensity were limited. An increment of residential dwelling units was added near each station except the East Center (Orange Station) while the employment intensity was adjusted only in the EUC.

Residential units were added to the station influence areas to reflect the difference between the Mid-Range and the Maximum Land Use Plans developed by the JPG in Summer, 1990. These levels were not exceeded because it was felt the JPG had set a reasonable upper limit of units that could be supported considering other factors such as water availability.

The land use in the EUC was adjusted to increase the amount of office employment from 1.2 million square feet to 3.0 million square feet of building area. The level of development was set to more closely approximate levels that justify fixed-guideway transit service. Based on national experience, the threshold amount of development for fixed-guideway service to suburban centers is between 5.0 and 10.0 million square feet. (op. cit. Zupan and Pushkarev)

Once rations of land use factors and development increases were established, the forecast boarding for LRT A-1 were adjusted by the proportionate amounts. Table 5.3 presents the information.

5.5.2 Otay Mesa Land Use Changes

The City of San Diego PDO for Otay Mesa has established overall planning restrictions and guidelines for development in the area. Development of individual lots or subdivisions will take place independently with the few large master plans grouped in the northwest end of the planning area.

The lack of single-developer control, especially in station influence areas will tend to limit the ability of planning efforts to focus on transit accessibility. A total of five stations could be available with Alternative C or six with the combined Alternative E. This presents a total of almost five to six square miles that would be within station influence areas, over 40 percent of available land in the Otay Mesa Development District.

Land Use Planning

Land use or site planning for developments on Otay Meas has not employed techniques and patterns used on Otay Ranch to focus development at transit nodes. Designation of an express line with major transit stops in the corridor would allow this type of planning to take place. Assuming future planning will begin to directly incorporate transit accessibility requirements, the factoring process was applied to each Otay Mesa station influence area.

TABLE 5.3

LRT RIDERSHIP ADJUSTED FOR LAND USE CHANGES
OTAY RANCH DEVELOPMENT

STATION	MODEL RIDER	DWELL. UNITS PLAN	DWELL. UNITS INCR.	COMMERCIAL USE PLAN	COMMERCIAL USE INC.	ADDTNL RIDERS LAND USE		ADDTNL RIDERS INTSY		ADJUSTED TOTAL	
W. Palomar	600	2,430	730	--	--	+400	67%	+150	25%	1,010	92%
La Media	650	3,530	1,010	--	--	+400	62%	+160	25%	1,170	80%
E. Palomar	340	980	260	--	--	+160	47%	+40	12%	530	59%
Orange (EUC)	1,200	3,000	0	1.2MS	3.0MS	+370	31%	+140	12%	1,710	43%
University	360	2,130	480	--	--	+80	22%	+60	17%	480	39%
Otay Vlly	160	2,120	470	==	==	±50	31%	±60	38%	250	69%
TOTAL	3,310	14,190	2,950	1.2MS	3.0MS	1,460	44%	610	18%	5,120	63%

Source: BRW, Inc.; 22 January 1990

A significant difference between Otay Mesa and Otay Ranch is the fact that five of the six station areas will not have residential uses nearby. The response of the factoring process to the land use/site planning techniques will be much less at these station areas because of the unbalanced nature of the transit productions (largely generated by dwelling units) versus employment-related trip attractions. Further, since the land uses at most of the stations are primarily employment-related, fewer trips are generated for shopping or other purposes. The exceptions to this are the Caliente station on the western end of the Mesa, which is more similar to the mixed use villages on Otay Ranch and the Otay Border station which has an extremely high external trip count from the international crossing.

Intensity Increase

Increase in land use intensities were assumed at each station on Otay Mesa. Current development of employment uses is averaging an FAR of 0.37 along Otay Mesa Road which is parallel to the LRT alignment. The PDO allows a maximum FAR of 2.0 with building heights to 150 feet. Assuming that building FARs would decline in concentric rings around each station, an assumption was made to increase the overall intensity from 0.37 FAR to 0.50 FAR. Assuming an average of 500 square feet per employee and a net developable area within each station influence area (500 acres) of 65 percent, the number of employees would increase from 10,500 to 14,000, a 35 percent increase. Employment-related attractions were, therefore, increased by this percentage at each station.

Since the Caliente station is similar to the Otay Ranch stations, both dwelling units and employment-related uses were increased. Dwelling units were increased from an average of 8.3 du/acre to 10.0 du/acre over half the station influences area. This would increase the number of dwelling units from about 2,10 to 2,500. Employment related uses were increased by the 35 percent developed for the Other Otay Mesa stations.

With these factors, boarding for the Alt. A-1 and Alt. C were adjusted for each station. The results are presented in Table 5.4.

TABLE 5.4

LRT RIDERSHIP ADJUSTED FOR LAND USE CHANGES OTAY MESA PDO

STATION	DAILY RIDERS (MODEL)	ADDITIONAL RIDERS LAND USE	INTENSITY	ADJUSTED DAILY RIDERS	PERCENT INCREASE
Caliente	1,210	310	270	1,790	+48%
Cactus	1,090	230	250	1,570	+44%
La Media	840	170	130	1,140	+36%
Otay Mesa	360	80	90	530	+47%
Lone Star	270	60	70	400	+48%
Otay Border	[1]1,630	350	320	2,300	+41%
TOTAL	5,400	1,200	1,130	7,730	+43%

[1]Worktrip at station only, no external trips adjusted.

Source: BRW, Inc.; 17 January 1991

5.5.3 Adjustments to Cost-Effectiveness

The cost-effectiveness calculations will change with the increase in daily ridership. Using the adjusted ridership totals for Alternatives A-1 and C, Table 5.5 was prepared to compare cost-effectiveness calculations.

TABLE 5.5

ADJUSTED COST-EFFECTIVENESS COMPARISON

Parameter	Route *SANDAG* A-1	Route *SANDAG* C	Alternative *Adjusted* A-1		Alternative *Adjusted* C	
Daily Boarding	16,120	19,240	19,420	+12%	21,270	+11%
Annual Boarding (Millions)	5.34	6.37	6.43	+21%	7.04	+11%
New Transit Riders (Millions)	3,660	1,930	6,860	+87%	3,960	+105%
Total Annual Cost/ Annual Boarding	$9.99	$6.14	$8.29	-17%	$5.56	-9%
Total Annual Cost/ Annual New River	$44.09	$61.11	$23.49	-47%	$29.86	-51%

Source: BRW, Inc.; 22 January 1991

5.6 OBSERVATION AND CONCLUSIONS

Based on the preceding analysis of land use changes, the following observations and conclusions are made.

1. Land use and site planning has the potential to increase ridership significantly from levels currently forecast. Experience in order urban areas with fixed-guideway transit lines has shown that proactive land use decisions can substantially add to the propensity of travelers to chose transit. This is especially true within walking distances of transit stations. The important objective should be to maximize the accessibility of stations to adjacent land uses and increase intensities to take advantage of the transit capacity available.

2. Land use planning to focus development around station areas in the South Bay has the potential to increase ridership 60 to 70% in mixed-use centers with a high percentage of residential land uses from that forecast by SANDAG. The response to transit accessibility is generally greater for residential use than for employment and other uses in the suburban South Bay area.

3. Land use and site intensities can be increased to take advantage of the transit investment and available person-capacity from the fixed-guideway line. Indeed, residential densities within walk distance of South Bay transit stations will need to exceed traditional single-family development levels in order to support transit. Overall density within station influence areas should be a minimum of 10 du/acre to generate additional ridership. However, these levels of intensity by themselves do not guarantee sufficient ridership levels to support LRT.

4. Within station influence areas, concentric rings of employment uses should be utilized to result in a net overall Floor Area Ratio above 0.5. The clustering of higher intensity employment within the first 1,000 feet of the station will result in significant increases in transit ridership, resulting in between 20 to 30% more riders to and from jobs.

5. With the designation of an alignment in the South Bay, station influence areas should be designated at all candidate sites. This is especially needed in Otay mesa because the number of individual land owners and developers will result in a lower degree of control than is possible with single master plan developer such as on Otay Ranch.

6. Development patterns to date on Otay mesa are typical of automobile-oriented suburban development. Express transit service, whether bus or LRT has been shown to carry high volumes in the SR-905 corridor. Transit station influence areas should be designated to focus development for future transit service. This will include increases in intensities within walk distances and site planning to promote use of transit, walk and bicycle access modes.

7. Station influence areas should also be designated at Otay Ranch sites once the fixed-guideway alignment is established. Land use planning could be even more aggressively oriented to the transit line with assurances of future implementation. This aggressive and planning approach could utilize techniques such as "pedestrian pockets" or neo-traditional town planning with greater densities focused at the station areas.

8. As the regional agency with responsibility for land use and transportation planning, SANDAG should work with each member agency to establish a program to proactively manage land use planning at station sites. National and foreign experience with land use planning with a transit orientation has resulted in a more pedestrian friendly built-environment and has assisted in meeting other regional objectives such as trip reductions, air quality levels and maximization of infrastructure investments. The key to success is to accomplish this action on a regional basis in concert with other programs to achieve the desired objectives.

EXHIBIT D

- Specific public service locations and facilities.
- Conveyance of dedicated parcels into the natural preserve onsite.

Mitigation measures proposed by the EIR identify the guidelines and performance standards that subsequent development proposals (SPA Plans) shall meet in order to be considered consistent with the findings of the GDP/SRP EIR.

3. Resource Management Plan

The Resource Protection Ordinance (RPO) was adopted by the San Diego County Board of Supervisors in May, 1989. The purpose of the Ordinance is to protect the County's wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites. Article V of the Ordinance provides for exemptions from the Ordinance. Section 9 of Article V expressly exempts "any project located within the approximately 22,500 acre property known as Otay Ranch, if determined to be consistent with a comprehensive Resource Management and Protection program which has been adopted by the Board of Supervisors for the Otay Ranch."

The Resource Management Plan (RMP) serves as the functional equivalent of the County's adopted RPO for Otay Ranch. The RMP also:

- addresses State and Federal regulatory programs and functions as part of an overall multi-species/habitat and cultural resources management program;
- provides the funding, phasing and ownership mechanisms necessary to effectively protect and manage onsite resources over the long term;
- plans for coordinated, controlled public use and enjoyment of the Management Preserve to be established as part of the RMP consistent with protection of sensitive resources; and
- by requiring irrevocable dedications of open space acreage, provides certainty that the open space will be preserved in perpetuity.

In contrast, while RPO provides a tool for setting aside resource areas, it does not provide effective long-term management and implementation tools, address the need for a public access and recreation plan, or address State and Federal Regulatory issues. Without appropriate management tools, resource areas set aside as part of the land development process are often subject to inappropriate and damaging uses. These undesirable uses include off-road vehicle activity, illegal dumping, shooting activities, and introduction of noxious non-native plant materials into sensitive resource areas. Such uses degrade and destroy sensitive habitats and other resources.

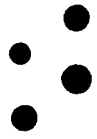
EXHIBIT
E

SOUTH SAN DIEGO COUNTY LAND USE ANALYSIS

Prepared For:

THE BALDWIN COMPANY

March 1990



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CHAPTER I

INTRODUCTION

This report describes the results of an evaluation of the interrelationship of the land use allocations for major planned projects being processed in the South San Diego County area. Techniques involved in the preparation of this analysis focus on relationships between employment and population and the distribution of employment by type of job in relationship to the availability of land developable for the types of uses that respond to probable demand for work places, retail and service facilities, etc., versus relationships to residential land uses. They are based on equilibrium concepts of jobs, housing, and land resources.

These research methodologies have been derived from more than 25 years of investigation of the interrelationships of population, employment, land use, circulation, etc. Background for some of these techniques is found in the following publications generated early in the Consultants' research into these factors:

"A Simple Land Use Model," presented at the 1st Pacific Regional Science Association Meeting, Honolulu, August 1969.

"Inefficiencies in the Retail Sector of the American Economy," presented at the Western Regional Science Association Meeting, San Diego, Spring 1970.

"A Simple Land Value Forecasting Model," presented at the Western Economic Association Meeting, Sacramento, 1970.

"PUD's as Alternatives to New Towns," National Real Estate Review, Summer 1971.

"One Aspect of Neo Mercantilism at the Regional Level," presented at the 46th Annual Conference of the Western Economic Associations, British Columbia, August 1971.

"The Obsolete Shopping Center - A Study of Causes and Cures," Journal of Property Management, September/October 1972.

"Should You Have a Shopping Center in Your Project?" House & Home, August 1973.

"Reserving Too Much Land for Industry Restricts Prospects for Broad-Based Development," Industrial Development, May/June 1977.

CHAPTER II

SUMMARY AND CONCLUSIONS

1. The allocation of industrial land in major projects in the study area exceeds the level compatible with the allocations of residential development by 3,700 acres, even on the basis of the following highly conservative assumptions: extremely low employee density in developed industrial facilities, a high ratio of industrial employment to total employment, the assumption that all employed residents of the South County area work in the South County as distinct from the current commute patterns, and fairly high ratios of employment to population with no military employment represented in the South County population, as well as the assumption that existing employee densities in existing industrial development in the South County remain constant.
2. At an employee density of 15.7 persons per developed industrial acre, the labor force requirement to absorb the amount of industrial land allocated exceeds the available labor force likely to be generated by the population in the South County area by 58,200 jobs, assuming that no employed residents of the South County area commute to jobs elsewhere in San Diego County. The 58,200 additional jobs (calculated on conservative assumptions) required would have an economic multiplier effect creating a total of 232,800 jobs some place in San Diego County and requiring an increase in population of 535,000 persons to generate the appropriate labor force. At 2.8 persons per household, induced

housing demand related to the 3,700-acre overallocation of industrial land constitutes a requirement for 191,000 dwelling units. Even high estimates of absorption potential for industrial land in the South County study area support the hypothesis that current allocations of the planned new developments in the study area include too much industrial land and not enough residential land in terms of the appropriate balance between these two types of land use.

3. A more efficient allocation of the 3,700-acre overallocation of industrial land use is as follows:

	Acres
Residential at 3.5 Dwelling Units/Acre	1,855
Industrial	169
Retail and Office	141
Subtotal	2,165
Roads and Streets	925
Institutional and Parks	610
Total	3,700

4. Even assuming that little or no office employment results from economic growth in the South County area, the allocated commercial land in the new developments being planned in the South County is low relative to the probable level of demand for retail and consumer commercial uses supportable by the population base that is consistent with the number of units and the amount of residential land allocated within these projects. A comparison of the relationships between actual recent patterns of residential and commercial land absorption in the City of San Diego with the

implications of the study area land use allocations illustrates this potential.

Land Absorption Shares

	Residential	Commercial	Industrial
City of San Diego 1980-86 Major Project Land Use Allocations for South County Projects	65.3%	14.4%	20.3%
	70.8%	4.4%	24.8%

	Acres of Nonresidential Land Use Per Acre of Residential Land Use	
	Industrial	Commercial
1986 Land Uses in South County	0.203	0.111
Major Development Plans Future	0.351	0.062
Total at Buildout Existing & Future	0.261	0.093
City of San Diego Increment 1980-86	0.310	0.220
City of San Diego Static 1986	0.175	0.144

5. These comparative analyses indicate that better land use and economic efficiency could be achieved by allocating relatively more land in the planned new communities to residential uses and commercial uses and less to industrial use. The potential consumer population implicit in the dwelling unit allocations for the study area will support 950 to 1,200 acres of retail and consumer service land use. The study area allocation is within this range - 1,135 acres. The allocation, however, makes no allowance for pure office space which could require as much as another 390 acres of commercial land - realistically about 160 acres. In order not to restrict development of sales tax generating elements, the most generous allocation of nonresidential land should be for commercial rather than industrial land use.

6. Throughout Southern California in recent years there has been a tendency to overallocate nonresidential land uses in the hope of expanding the economic base. The result has been an inversion of the historical relationship between land prices for various uses. Ideally, residential land should be less expensive than commercial sites. Commercial operations require not only a definable amount of land area, they also require locational characteristics that are not crucial to the success of a residential development. In Southern California, land prices for residential development are now in many cases higher than the price of land for commercial development, suggesting a mismatch between supply and demand. The relative undersupply of entitled residential land is in part a function of planning policies. This inverted price relationship has contributed to the high cost of housing in the face of overbuilt commercial real estate sectors, especially offices. This is not a socially desirable set of economic circumstances.

CHAPTER III

LAND USE RELATIONSHIPS

One axiom of micro economic theory is that everything is connected to everything else. Urban land use is a function of the structure of the pertinent urban economy in fairly obvious ways. Consumers who occupy housing units also represent support for retail stores, professional offices and services, and create demand for places to work, as well as for a variety of government services which also involve land use. Somewhat imperfectly, private sector land uses respond to market forces which are a function of the structure of the local economy.

There is a clear connection between employment and population. In fact, employment growth is believed by many economists to drive population growth. There is an even closer relationship between nonagricultural wage and salary employment and the number of households in the economy - a relationship which is demonstrated elsewhere in this report.

Private sector land uses can be conveniently divided into four categories, several of which respond to somewhat independent economic forces. By far, the bulk of privately developed urban land is used for residential purposes - on the order of 50.0 percent in most areas. The second largest use of urban land is for roads and streets ($\pm$22.0 to 25.0 percent). Third most important is public and semi-public uses (parks, schools, cemeteries, golf courses, airports, etc.) which typically represent 15.0 to 18.0 percent of developed urban land. The amount of urban land devoted to retail commercial, office commercial, and

industrial commercial uses in a given area is a function of the economic structure of the local economy and the degree to which residential areas are separated from work areas by commute.

The amount of urban land used per capita or per employee is to some degree related to land cost and, therefore, the need to use it economically or with high-density activities in expensive locations.

Relationship of Employment to Population

Typically, the ratio of nonagricultural wage and salary employment to population in most "average" urban areas is on the order of 0.40 to 0.44 nonagricultural wage and salary jobs per resident unless the area's population is characterized by an above-average proportion of senior citizens or other atypical factors. These relationships are illustrated for California and the U.S. as a whole in Exhibit III-1. In 1987, the ratio of jobs to population in these two large areas was about 0.42 nonagricultural wage and salary jobs per capita of population.

Similar data for each of the two major Southern California concentrations of urban population are shown in Exhibit III-2, indicating the degree to which inter-metropolitan area commuting distorts the employment-to-population ratio for a given metropolitan area in this megalopolistic entity. Restricted ability to develop housing in Orange County has caused employment to grow faster than population creating an incremental ratio of employment growth to population growth of 0.94 jobs per new person. The large commuter population in the Riverside-San Bernardino metropolitan area sustains a very low ratio of employment to population both on a static basis and at the margin in the Inland Empire. The incremental rate of employment

growth relative to population growth in San Diego County has been similar to the comparable figure for the Ventura metropolitan area.

Comparisons of employment-to-population ratios for the Northern California metropolitan areas are included in Exhibit III-3, showing similar but somewhat higher ratios of nonagricultural wage and salary employment to population. This difference probably reflects some long-distance commuters working in the Bay Area who live in areas as far away as Modesto - a separate metropolitan area that is not included in the Bay Area totals. Another factor causing the ratio of civilian employment to population in the Bay Area to be higher than in Southern California is the military population in San Diego County. Adding an estimated 120,000 military personnel to the 1988 employment figures for Southern California raises the overall Southern California ratio to 0.441 jobs per capita.

Except for retirement areas, economic well being appears to require the output of workers at a ratio of about 0.40 to 0.45 jobs per capita. At first blush, the statistics for San Diego County do not support this hypothesis. The ratio in 1988 was 0.385 <u>civilian non-military</u> nonagricultural wage and salary jobs per capita of population. A detailed 1988 employment profile of San Diego County vis-a-vis the U.S. as a whole is shown in Exhibit III-4, suggesting that San Diego County's employment base is biased towards construction; trade; finance, insurance, and real estate; services; and government at the expense of jobs in manufacturing and transportation and public utilities. These data deal with nonagricultural wage and salary employment. Introducing the assumption that the military job base in San Diego County is

approximately 120,000 persons, the comparative ratios for 1985 would be (as shown in Exhibit III-5) illustrative of a good deal more balance than the ratios in Exhibit III-4 that exclude consumer support represented by military jobs. Military jobs are in many respects analogous to manufacturing jobs in that the source of funds for payroll is drawn from outside the local economy; i.e., an economic base element.

As shown in Exhibit III-2, the ratio of civilian nonagricultural wage and salary employment to population in Southern California's urban areas in 1988 was 0.433 jobs per capita. If San Diego County's military employment is added to the total, the ratio for Southern California as a whole is 0.441 jobs per capita population. Dependency ratios for military jobs are less than for civilian nonagricultural jobs, suggesting a working ratio of 0.435 civilian nonagricultural jobs per capita.

Similar comparisons for 1988 (based on the assumption that the military constitutes 120,000 jobs in San Diego County) are provided below:

	Employment	Percent	Percent U.S.
Mining	800	0.1	0.7
Construction	57,300	5.6	5.0
Manufacturing	127,300	12.3	18.4
Military	120,000	11.6	
Transportation, Communication, and Utilities	35,200	3.4	5.3
Trade	222,000	21.5	23.9
Finance, Insurance and Real Estate	63,800	6.2	6.3
Services	243,100	23.5	24.0
Government	163,200	15.8	16.4
	1,032,700	100.0	100.0

These comparisons suggest that land use patterns reflecting the structure of the local economy in San Diego County should be reasonably similar to national averages except for the military component and the correspondingly lower proportion of manufacturing jobs in San Diego County.

Economic Structure and Land Use

The City of San Diego, largely under the impetus of George Orman, has for about 30 years maintained a fairly detailed land use inventory expressed in terms of net acres of land devoted to general land use categories. Patterns of land use in the City are not a microcosm of the Countywide patterns because of the City of San Diego's role as a central place. They may be useful, however, in establishing perspective. The City's land use code assigns a separate code to roads and streets and also incorporates land uses that do not respond to market forces - military installations, public and semi-public land uses, vacant land, agricultural land, etc. The land uses of most specific interest in negotiations between the public and private sector are those that are market-driven residential, commercial, and industrial land uses. A comparison of change in the reported inventory of land in use for these purposes in the City of San Diego between 1980 and 1986 shows the following relationships:

City of San Diego Land Use Inventory Net Acres

	1980	1986	Change	Percent of Change
Residential	39,310	43,914	4,604	65.3
Commercial	5,320	6,339	1,019	14.4
Industrial	6,261	7,690	1,429	20.3
	50,891	57,943	7,052	100.0
Population	852,500	955,399	102,899	
Persons Per Acre:				
Residential	21.69	21.76	22.35	
Commercial	160.24	150.72	100.98	
Industrial	136.16	124.24	72.01	
All Uses	16.75	16.49	14.59	

Residential land represented 65.3 percent of the increase in land use over this period, commercial land 14.4 percent, and industrial land 20.3 percent. Although useful as a benchmark, data for the City of San Diego are not directly transferable to potential land use patterns in the South County study area because of differences in the economic structure in the urban core of the metropolitan area and the suburban parts of the metropolitan area.

As shown in Exhibit III-6, the City of San Diego accounted for 44.2 percent of the value of retail development authorized by permit in the County in 1980 through 1985. The City represented 85.8 percent of the value of office space construction authorized by permit in the County over this same interval - as illustrated in Exhibit III-7. About 51.6 percent of the building permit value of industrial development in the County was in the City of San Diego over this interval, as shown in Exhibit III-8. During this interval, population growth in the City of San Diego was about 46.8 percent of total population growth in the

County. The accuracy of this estimate is contingent on the definitions of population level in the City of San Diego at the two end point years. The California State Office of Planning uses somewhat different population figures for the City than those found in the City of San Diego's Population and Land Use Bulletins, probably related to the date.

Retail Land Use

Alfred Gobar Associates, Inc., maintains an ongoing analysis of land use patterns relative to economic growth for all major metropolitan areas in Southern California. Growth in retail employment in San Diego County, shown in Exhibit III-10, is converted to estimates of demand potential for retail floor space to be compared with estimates of development based on an analysis of building permit valuations, as shown in Exhibit III-11. The employment components used as a proxy for floor space demand are summarized in Exhibit III-12. From 1980 to 1986, estimated development of new retail floor space in San Diego County was 20.7 million square feet. At a lot coverage of 25.0 percent (10,890 square feet per developed acre), this represents development of approximately 1,900 acres of new retail facilities in San Diego County between 1980 and 1986. If the City of San Diego accounted for 44.0 percent of this total, implicit level of development in the City was 836 acres of new retail floor space.

Office Land Use

Similar excerpts from the Consultants' model of San Diego County's office sector are included in Exhibits III-13, III-14, and III-15. Over the period from 1980 to 1986, an estimated 23.6 million square feet of office space was developed in San Diego County. (Note that the vacancy

simulations in Exhibit III-14 do not include an adjustment for the loss of some office tenants to upgraded industrial buildings.) The figures above indicate that about 86.0 percent of the permit value of office development in San Diego County over the period from 1980 to 1986 was in the City of San Diego - an unadjusted estimate of 22.6 million square feet of office development in the City. Office uses are highly centralized in most urban areas as is the case in San Diego County.

Because of the nature of office construction in the City of San Diego - high-rise buildings with parking structures, etc. - the dollar value of permits used to calculate the share of development probably overstates the amount of square footage of office space developed in the City as distinct from the suburban areas where development of lower cost suburban office space is more feasible. Discounting the 22.6 million square foot estimate to reflect an average cost of development about 30.0 percent higher in the City than is typical of the average for the County as a whole suggests the effective development level in the City was 17.4 million square feet. At an FAR of 2.0, implicit land absorption related to these assumptions is 8,700,000 square feet of surface area, or 200 acres.

Adding the estimated level of land absorption for office space to the 836 acres of estimated development of retail sites produces an estimate of absorption of commercial land in the City of San Diego between 1980 and 1986 of 1,036 acres. Materials from the City of San Diego Population and Land Use Bulletins define absorption of 1,019 acres for commercial use over the same interval - a difference of 1.6 percent between the top-down analysis and empirical data.

Industrial Land Use

Exhibits III-16, III-17, and III-18 are comparable data from the Consultants' model of industrial land use in San Diego County, indicating development of approximately 1,674 acres of industrial facilities Countywide between 1980 and 1986. If 52.0 percent of this development was in the City, the implicit development level in the City of San Diego was 870 acres over the six-year interval. The Population and Land Use Bulletins indicate 1,429 more acres of land were classified as industrial use in 1986 than was true in 1980.

Assuming that reclassification of existing land use is not a factor in the difference between the reported change and the calculated change in industrial land use in the City from 1980 to 1986, the implicit employment density at the margin (change in industrial jobs relative to change in land use) was 15.7 industrial jobs per new acre of industrial land use. A substantial body of research, however, supports the argument that the appropriate land use coefficient for industrial land use in San Diego County is ±25 industrial jobs per acre, or ±680 square feet of floor area per acre at an average of 17,000 square feet of floor area per acre lot coverage. Both coefficients were employed in the comparative analyses in Chapter IV.

The relative shares of increase in land use in the City of San Diego over the six-year interval studied as noted above was composed of the following proportions:

Residential	65.3%
Commercial	14.4%
Industrial	20.3%
	100.0%

Assuming the industrial absorption figure is correct and does not represent a reclassification of land use from other classifications prior to 1980 with no change in actual use, the equivalent ratio expressed in acres is as follows:

Industrial Land	0.31 Acres Per Acre of Residential Land
Commercial Land	0.22 Acres Per Acre of Residential Land

In suburban areas, the ratios of nonresidential land use to residential land use are likely to be less because of the central place nature of office jobs and industrial jobs and the lower density of population in residential areas in the suburbs as compared with the City of San Diego. The ratios of 0.31 acres of industrial land per acre of residential land and 0.22 acres of commercial land per acre of residential land, therefore, probably are substantially higher than market forces will dictate in a suburban location such as the South County study area described in Chapter IV.

The models used to estimate demand for developed industrial real estate are driven by employment patterns. Although some employees of construction, manufacturing, and wholesale firms are housed in offices, the projection system assumes all jobs in these employment categories relate to industrial space. Mining employment is related primarily to extractive land uses. With the exception of service yards, generating plants, airports, treatment plants, and other relatively fixed facilities that are not affected by employment change, much transportation, utility, and communication employment is in the field or in offices; i.e., spread over many land use categories. From 1980 to

1989, this category of employment grew by an average of 850 jobs a year or 2.7 percent of total employment change in the County.

Similarly, all finance, insurance, and real estate jobs and part or all of the employment in several service sector subcategories of employment - business services, legal, medical, architects, engineers, accountants, charities, etc. - are assumed to represent potential occupancy of office buildings. Some service sector jobs - hotels, auto repair, other repair, hospitals, museums, travel agencies, personal care, religious, etc. - relate to other land uses - retail sites (accommodated in the retail land uses) and public and semi-public uses which are not addressed precisely in the planning-based land use allocations provided for the study area.

Cross transfers of demand from one category of demand to a noncongruent land use are treated on a specific case-by-case basis in the applications of these models to specific sites for market feasibility studies.

FIGURE 3. SIMPLE CORRELATION OF DEMAND AND SUPPLY VARIABLES TO RESIDENTIAL LAND PRICES

Independent Variables	1980 Lot Price	1975–80 Increase in Lot Price
Demand		
1. 1980 Population	.162	– .064
2. Increase in Population, 1975–80	.084	.371
3. 1979 Per-Capita Income	.331	.365
4. Increase in Per-Capita Income, 1975–79	.043	.378
5. Employment Growth Rate, 1975–80	.390	.490
Supply		
6. Physical Restrictions	.394	.239
7. Regulatory Restrictions	.698	– .651
Related		
8. 1975 Lot Price	.788	.059
9. 1975 Raw Land Price	.590	.334
10. 1980 Median Housing Price	.705	.582

Source: Urban Land Institute.

housing markets. The cost of raw land, land development, construction, and rehabilitation are all affected by local land use and building regulations, environmental policies, public works standards, and the capacity of roads and utilities. Carrying costs and risks are affected by delay and uncertainty in the permit approval process. Importantly, any increase in the cost of new housing is eventually felt in existing housing prices as households shop for better deals and bid prices up.[8]

Of the major cost components of new housing—land, labor, materials, and capital—land is most subject to the policies of local government.

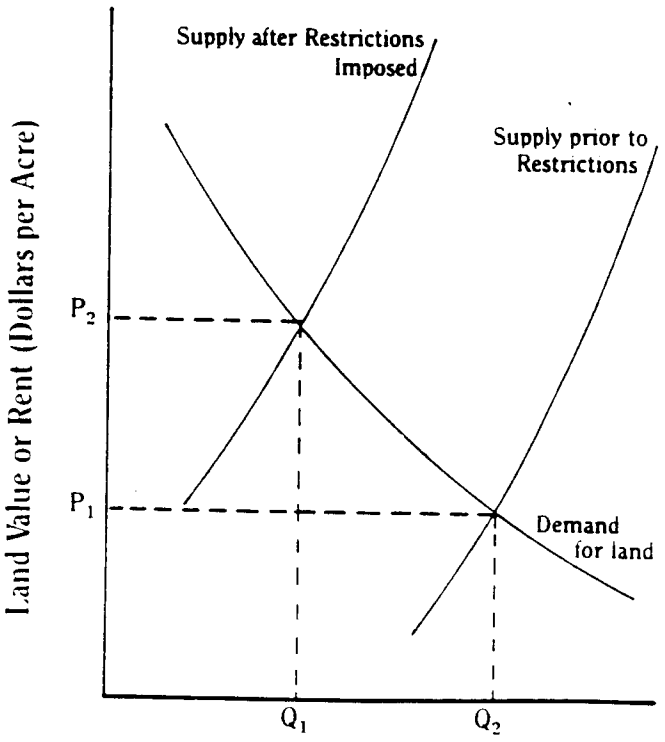
Urban planners have sometimes argued that land speculators, not land use controls, should be blamed if land prices shoot up. Such an argument makes the point that speculators speculate when they perceive a scarcity of land supply. Where the production of improved sites for housing is not keeping up with demand, speculative buying of available sites is inevitable.

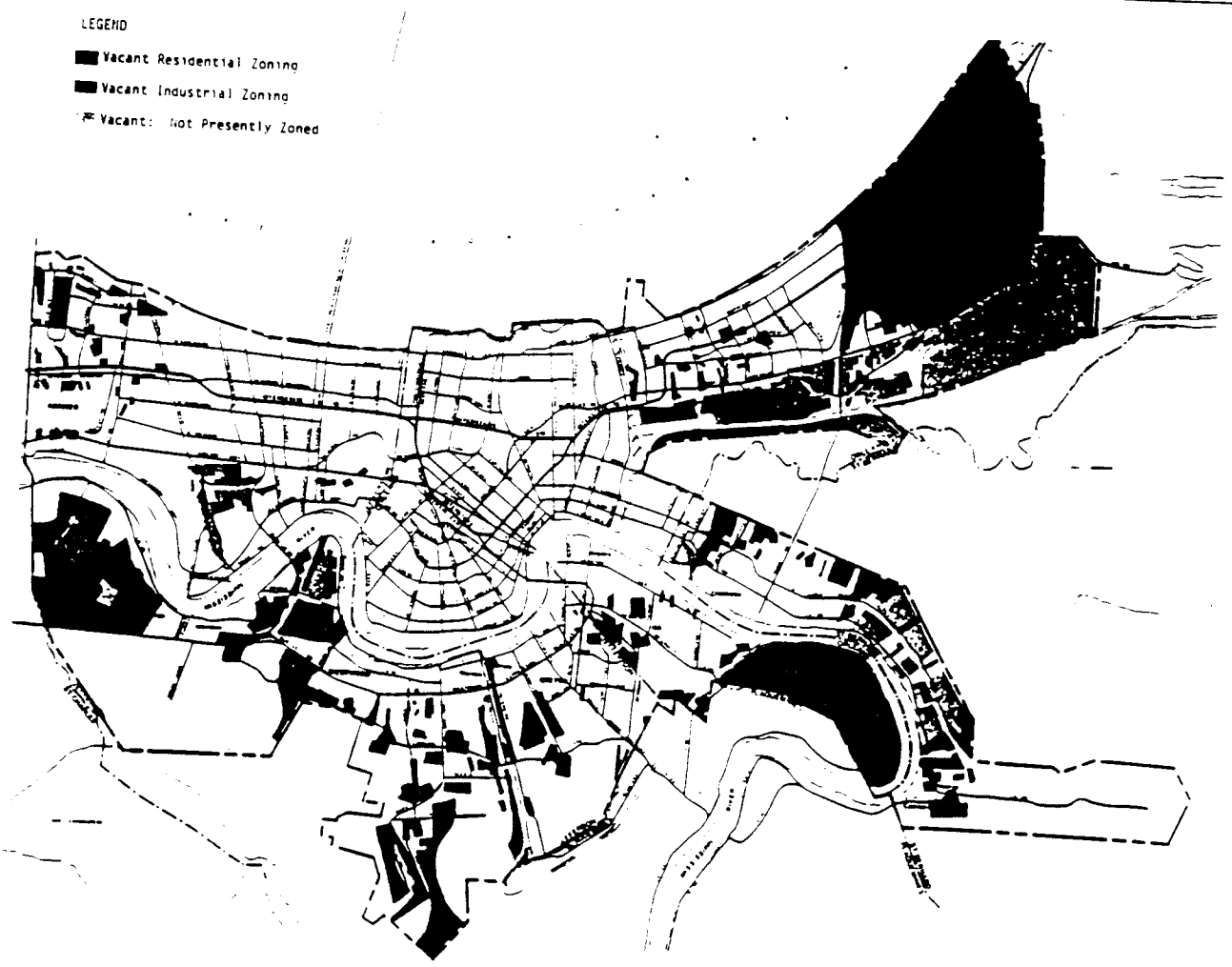
In an urban area with reasonably good growth, if the supply of developable land becomes tight in geographic sectors where demand is greatest, developers will have to bid higher to purchase land, resulting in new residential development being priced up, aimed toward the higher-income brackets. In those neighborhoods where there is little or no perceived housing demand from higher-income groups, the tendency will be to increase density and develop housing to sell at the same price level as previously.

If land supply and density restrictions are tight enough in the geographic sectors where people most want to live, the market may shift to districts that traditionally have low demand. These districts may then experience an increase in development activity—provided developable land is available—aimed at the middle- and low-middle homebuying market. If this occurs, the average house price in the urban area will increase—especially if the quality of the project is held constant. The amount of increase caused by rising land prices will depend on the amount and distribution of demand for housing as well as the amount of developable land in various geographic markets.

Before higher-priced new units can be sold in any volume, prices of existing houses will be pushed up somewhat because of new land supply constraints while homebuyers shop among comparable units in the new and existing markets. Consequently, the effect of local policies on the market should hold greater sway in making local government decisions.

FIGURE 4 EFFECTS OF GOVERNMENTAL RESTRICTIONS ON LAND PRICES





Vacant land in New Orleans.

LOCAL LAND MANAGEMENT

To provide adequate land for residential development, communities may first take a series of steps aimed at managing their land supplies better.[8] These steps include developing an improved data base and creating analytical tools to monitor land prices, measuring the availability of land, assessing the costs of development, and determining the extent and nature of future land demand.[9] After this, communities can establish programs and implement actions to meet land demand and increase land supplies.

It is crucial that the public and private sectors work together to develop a means for measuring land supply and demand and for establishing methods to resolve issues surrounding land supply. Together, local governments, homebuilders, and consumers have the knowledge, the capacity, and the understanding to establish a workable system to ensure that a plentiful supply of developable land exists.[10]

LOCAL ACTIONS FOR INCREASING LAND SUPPLY

Five types of action to increase land supply are discussed here:

- Overcoming infrastructure funding problems, with emphasis on alternative local revenue sources.

- Overcoming environmental and topographic constraints, with emphasis on combining residential development with agricultural and wetlands protection.
- Increasing allowable densities, which in effect places more units on available land and thus increases the land supply.
- Developing tax-delinquent and surplus public land.
- Using tax and eminent domain powers to influence landowner decisions.

Although these five subjects include most of the methods by which local governments can influence land supply, they do not cover all possibilities. For example, the use of government assistance in overcoming problems caused by inappropriate land subdivision is omitted because no successful examples were found. Also, little is said about governmental land backing, except in the context of tax-delinquent and surplus public land. In general, techniques used to write down the cost of land through government subsidies (as in the old federal urban renewal program) are not treated in this discussion. Another common approach not discussed here involves the use of neighborhood improvement programs to upgrade the marketability of sites in deteriorating areas; most cities are engaged in a variety of neighborhood improvement activities.

To the extent possible, case examples are used to illustrate the various types of actions covered in this report. Appendix A contains names and addresses of people in each community who can provide further information. The endnotes provide references to publications that may be helpful.

Outlined in the photo is the North Central Austin Growth Corridor Municipal Utility District No. 1, a 695-acre development being managed by Nash Phillips/Copus Inc. Nineteen months into development, 50 projects are under construction.